DRUG & COSMETIC INDUSTRY

SEPTEMBER, 1951

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FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
MAX FRANKEL, Art Director

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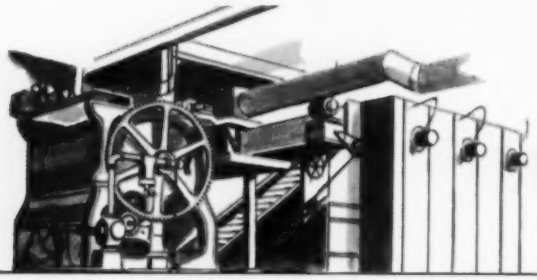

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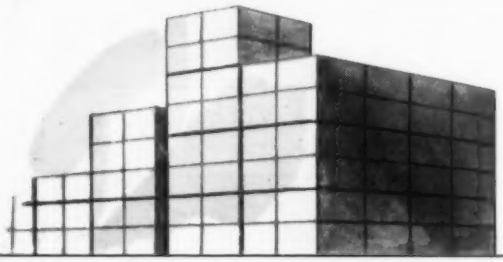

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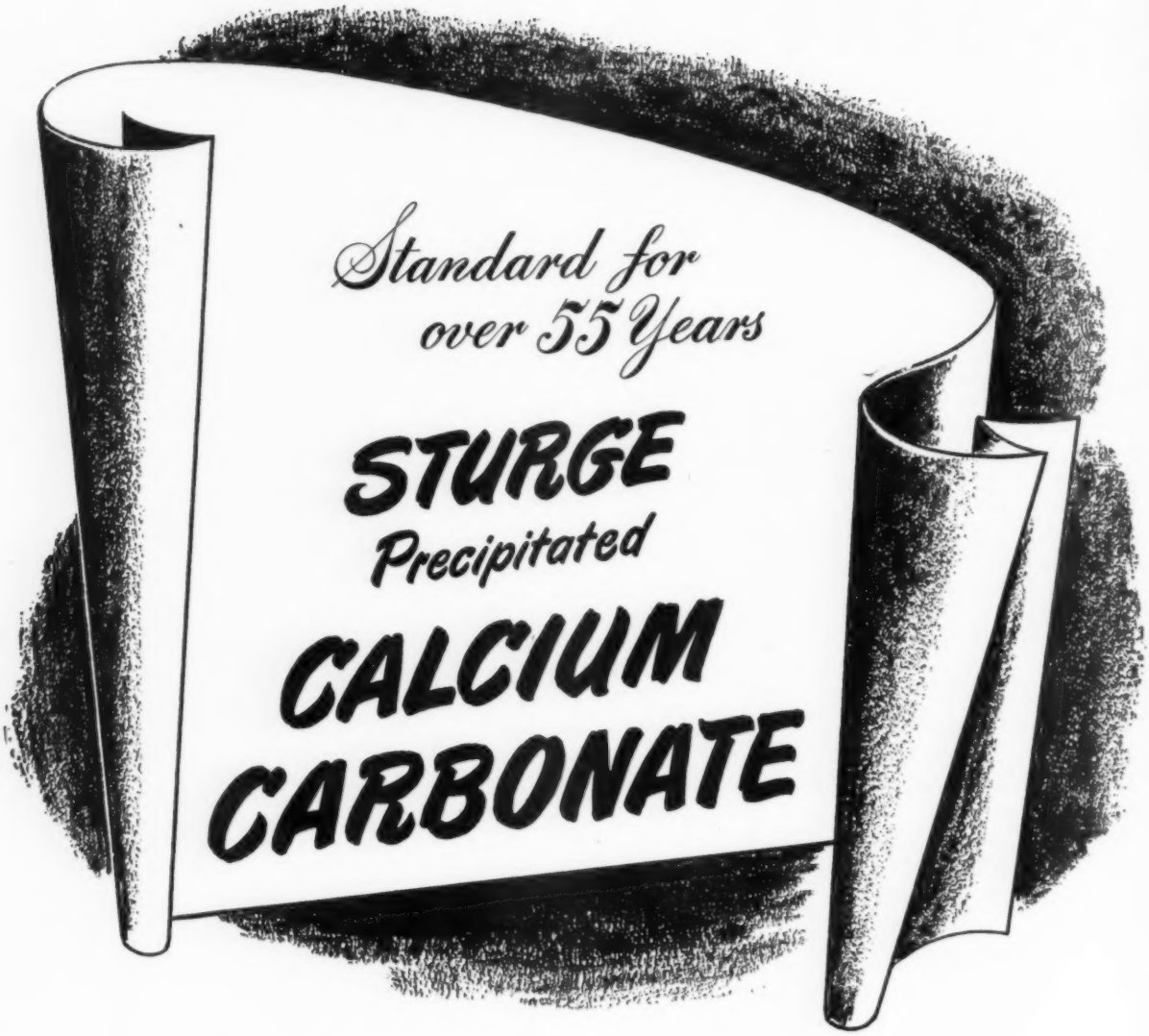

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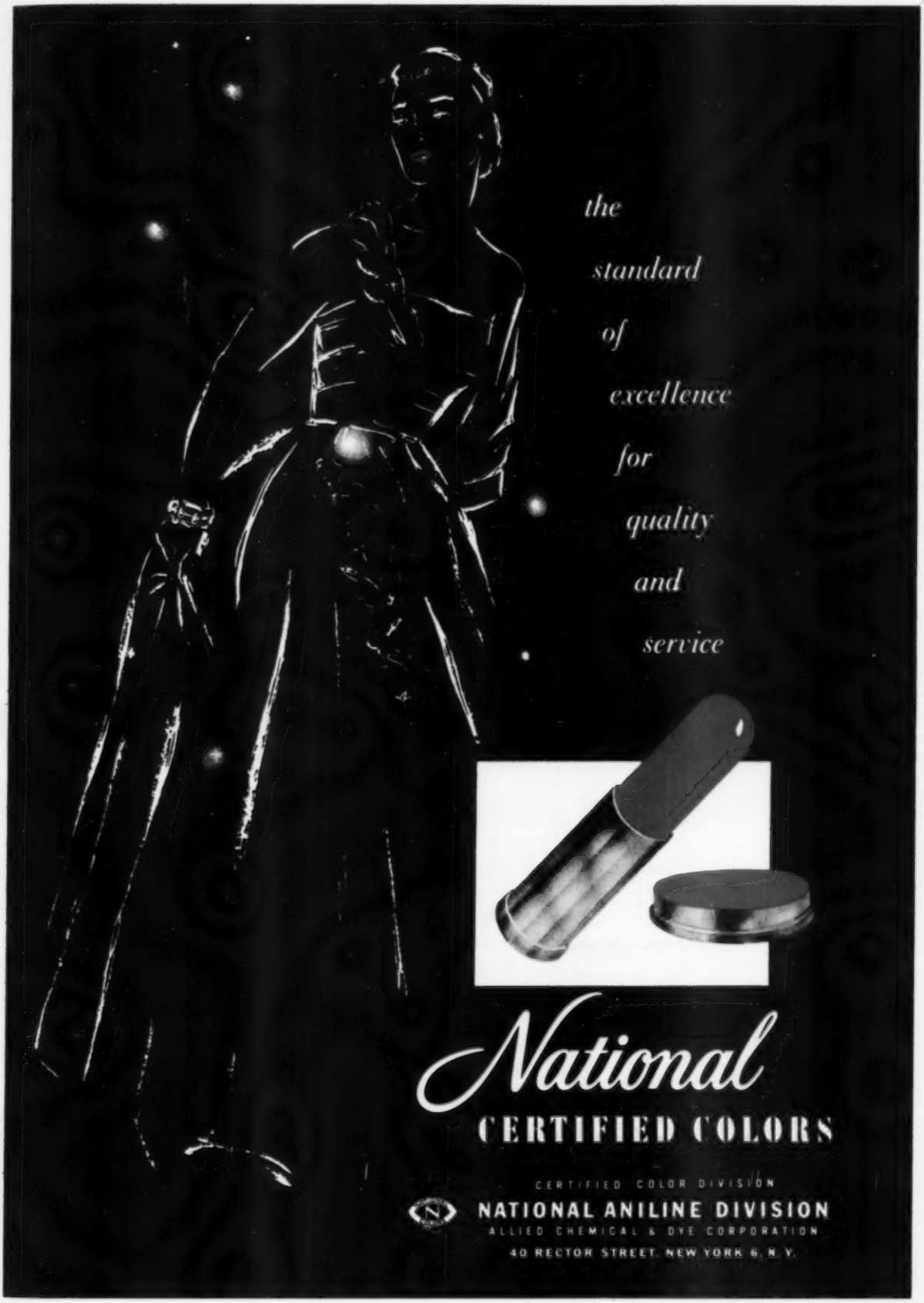
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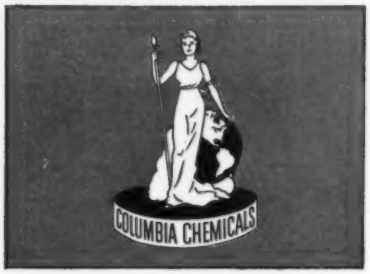

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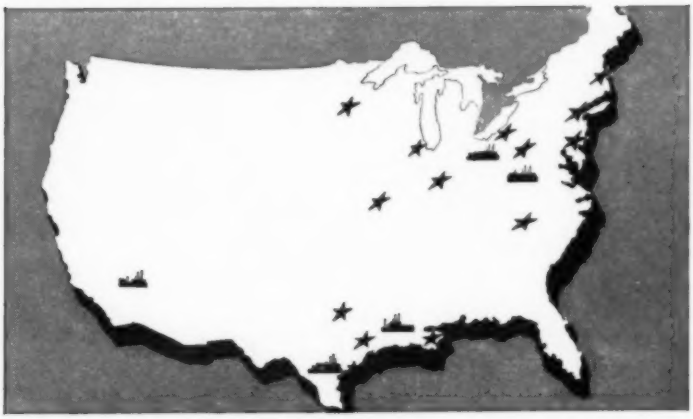

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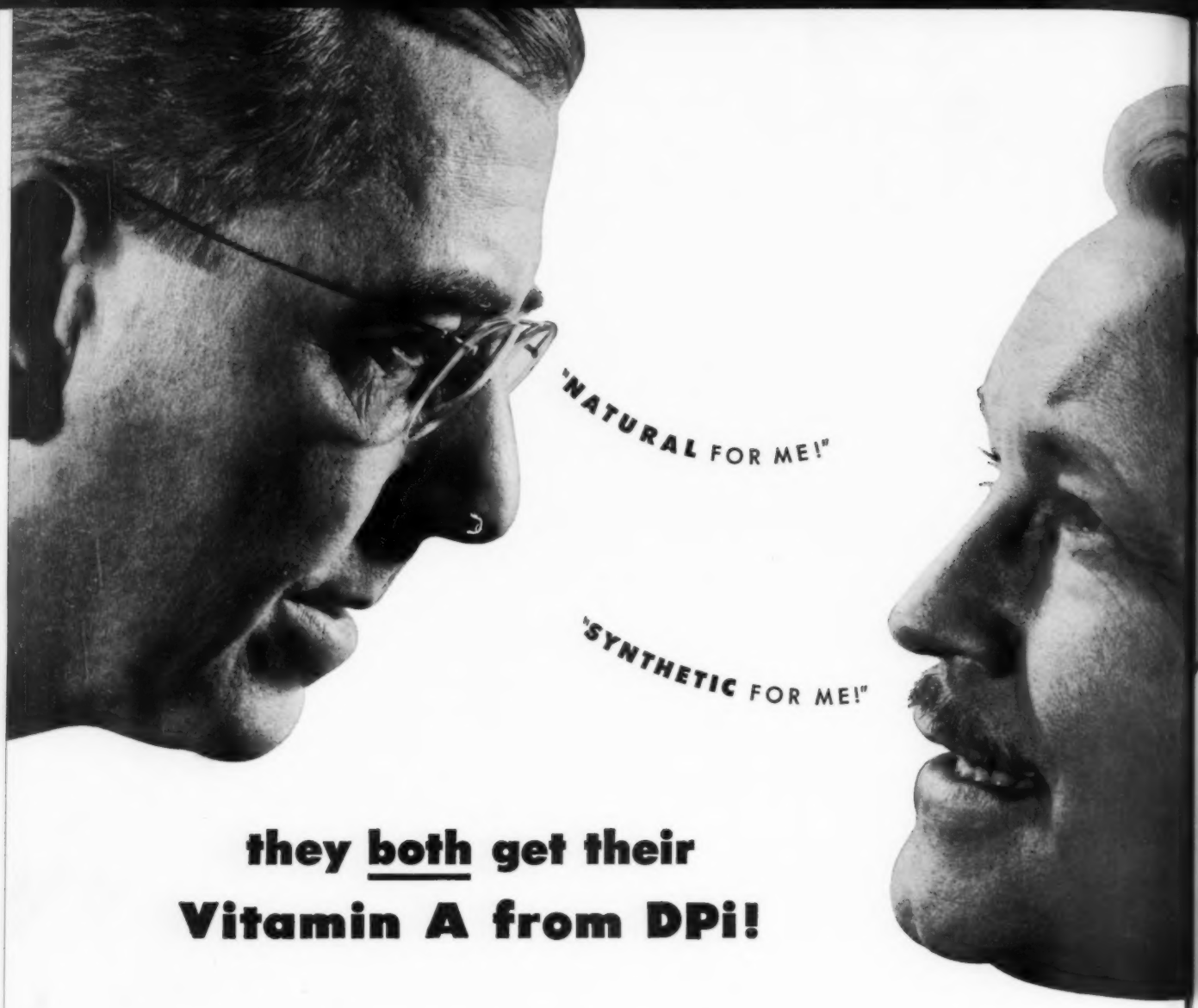

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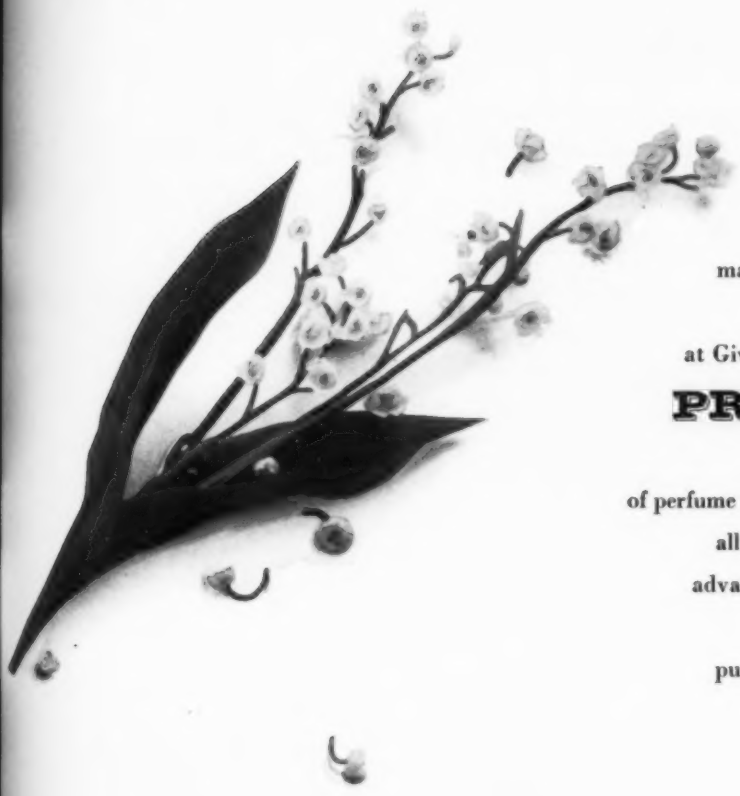

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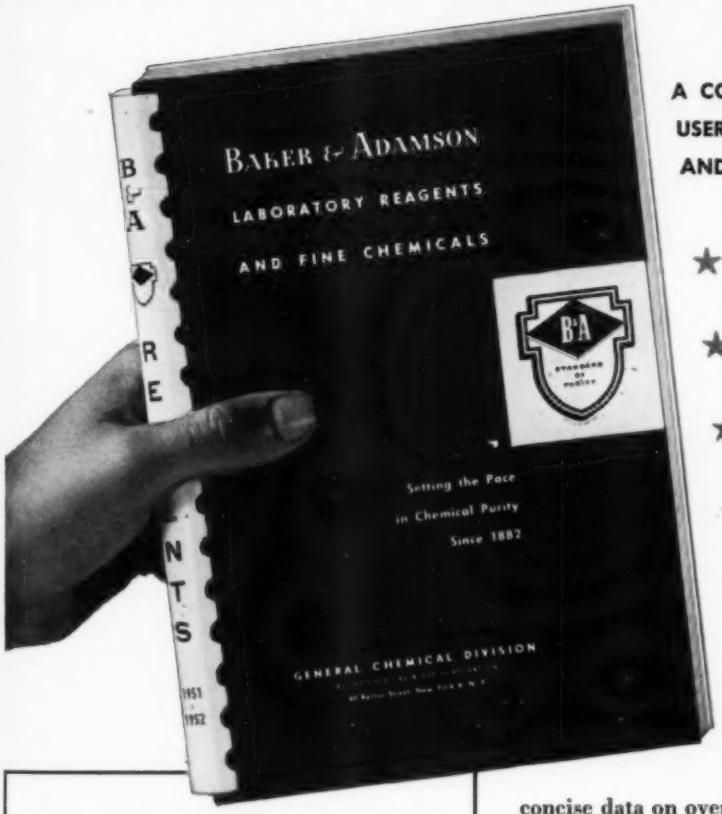

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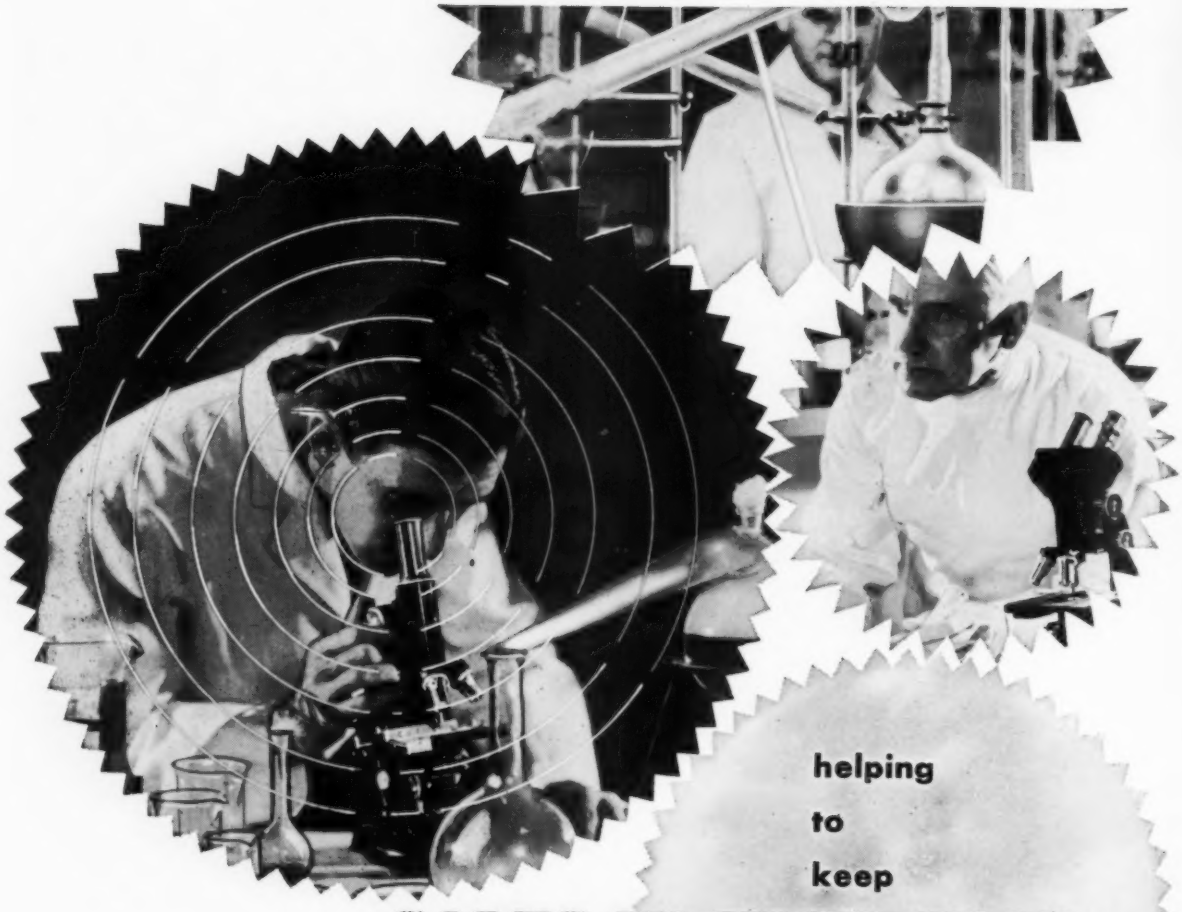

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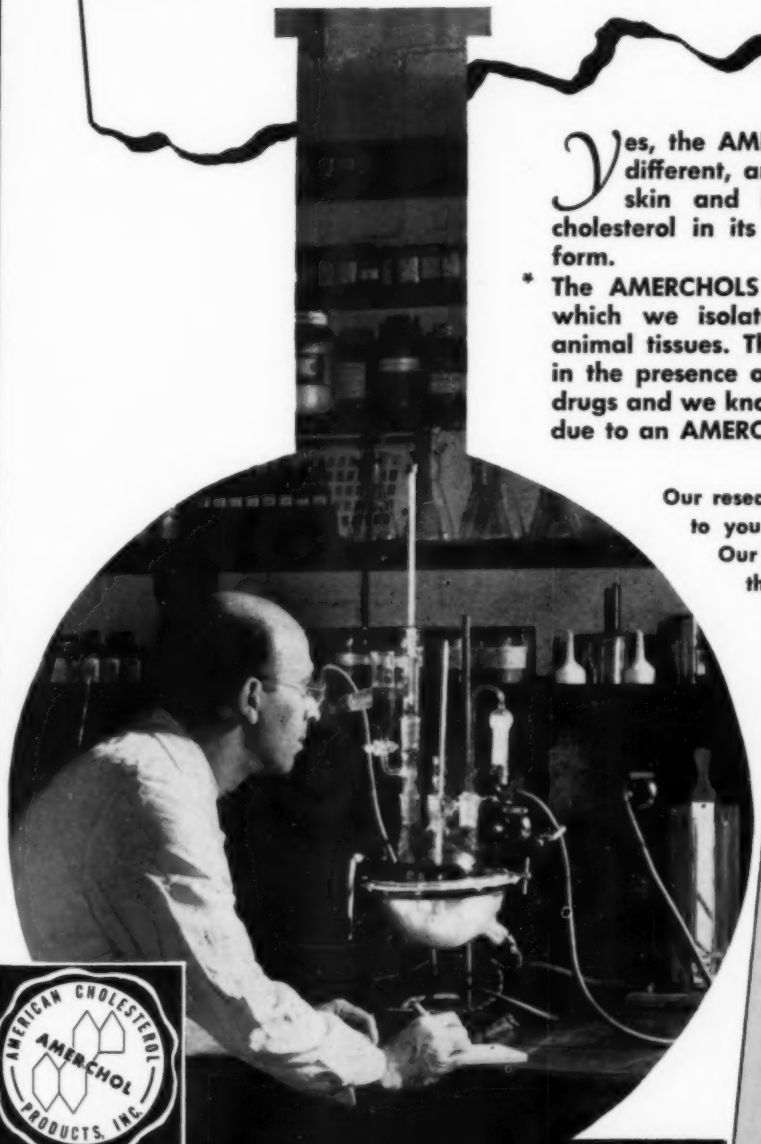

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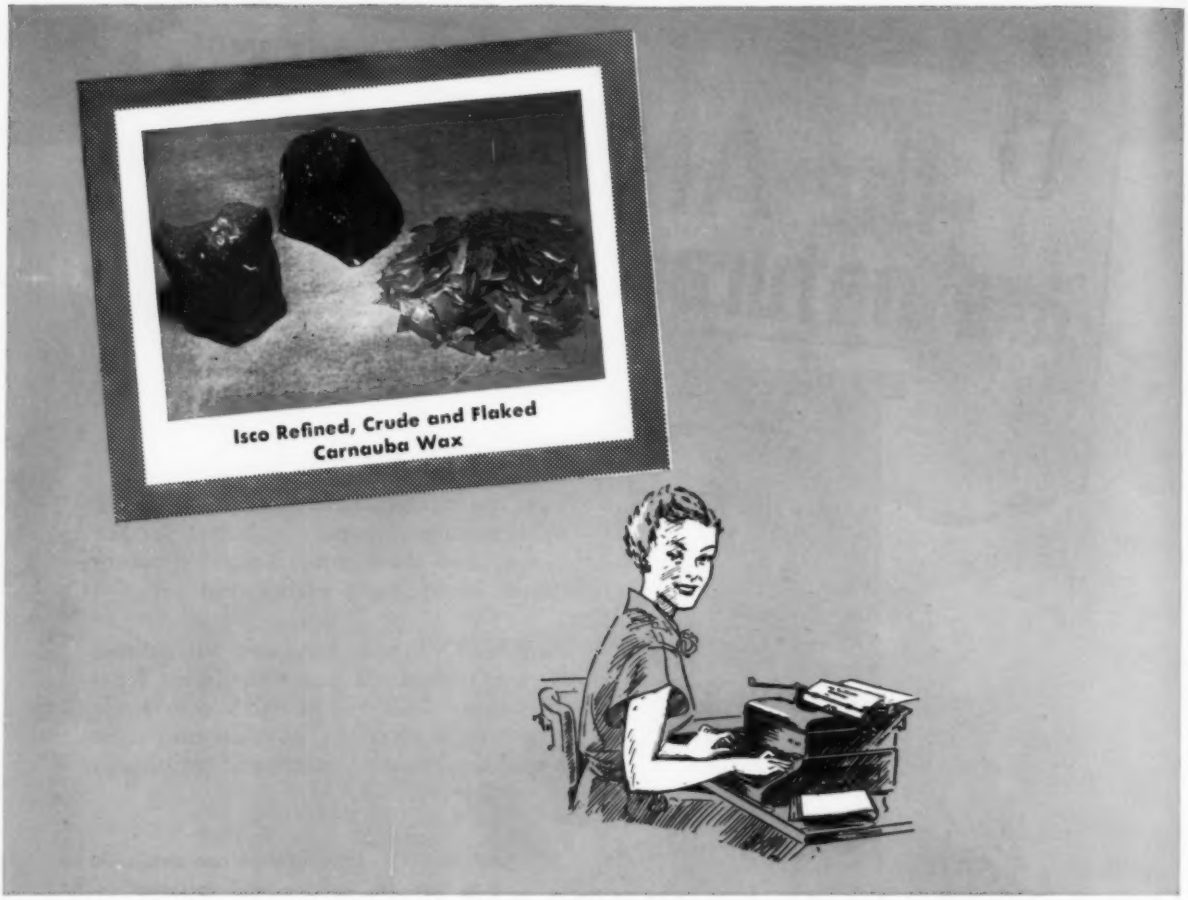

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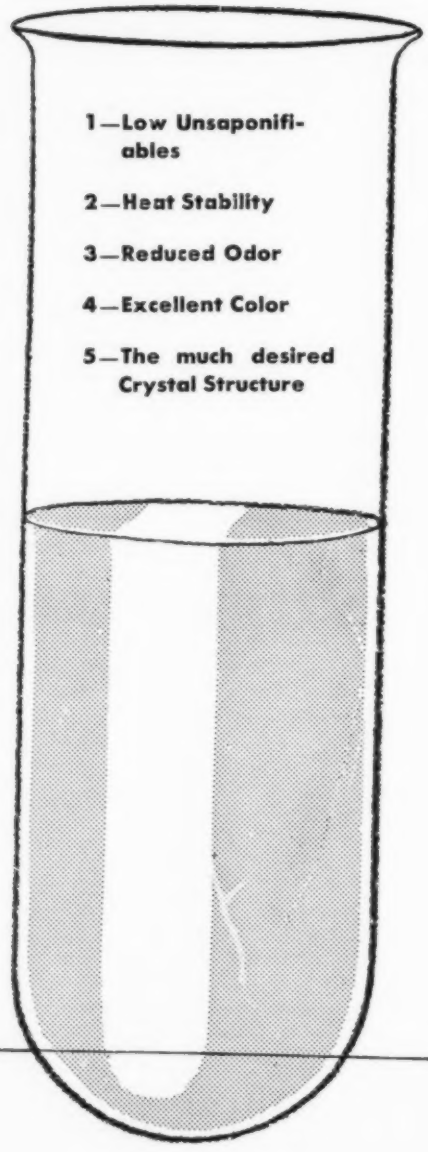

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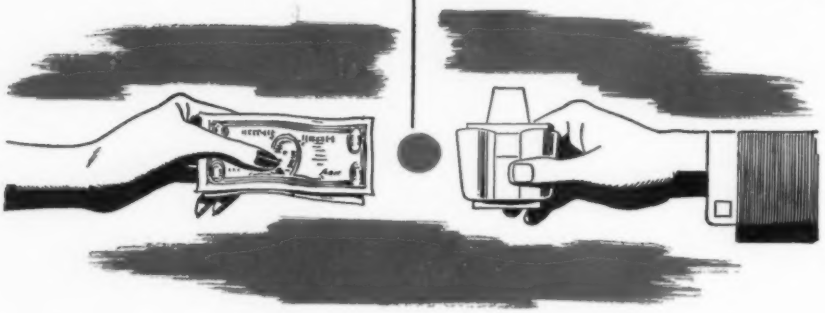

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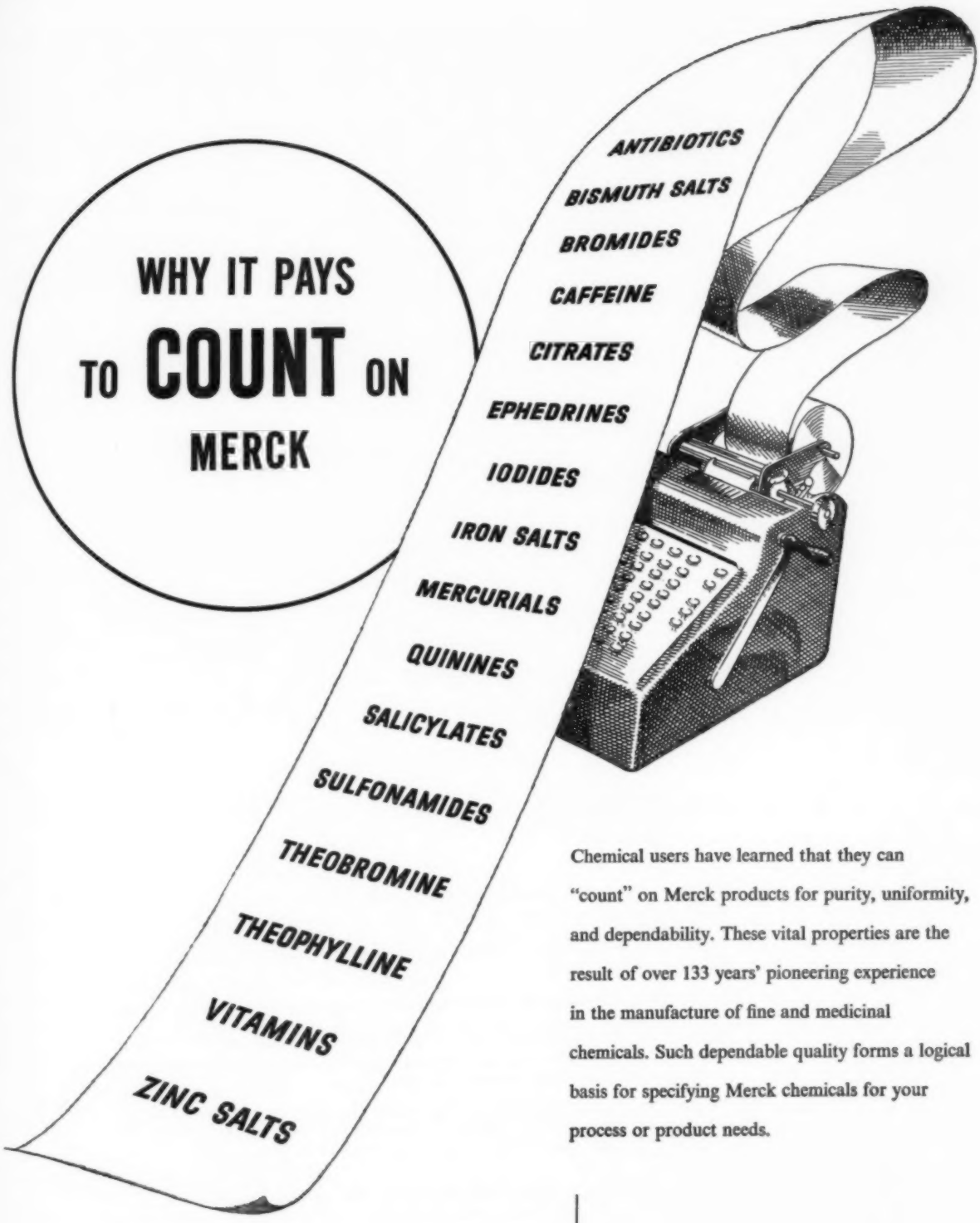

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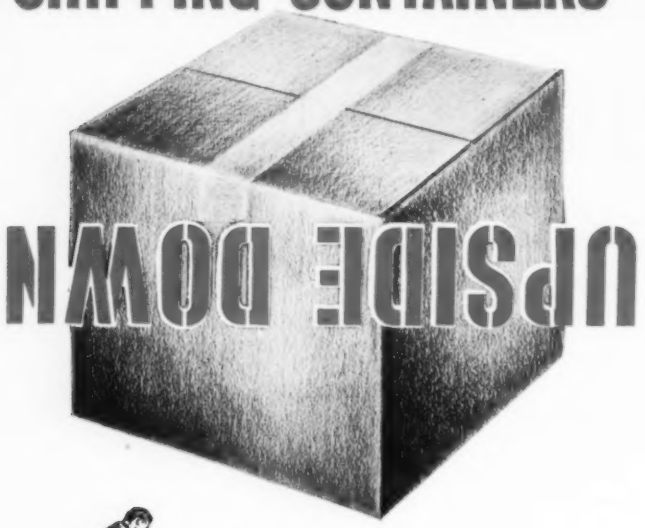

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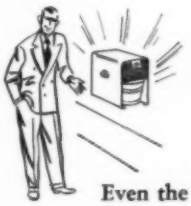

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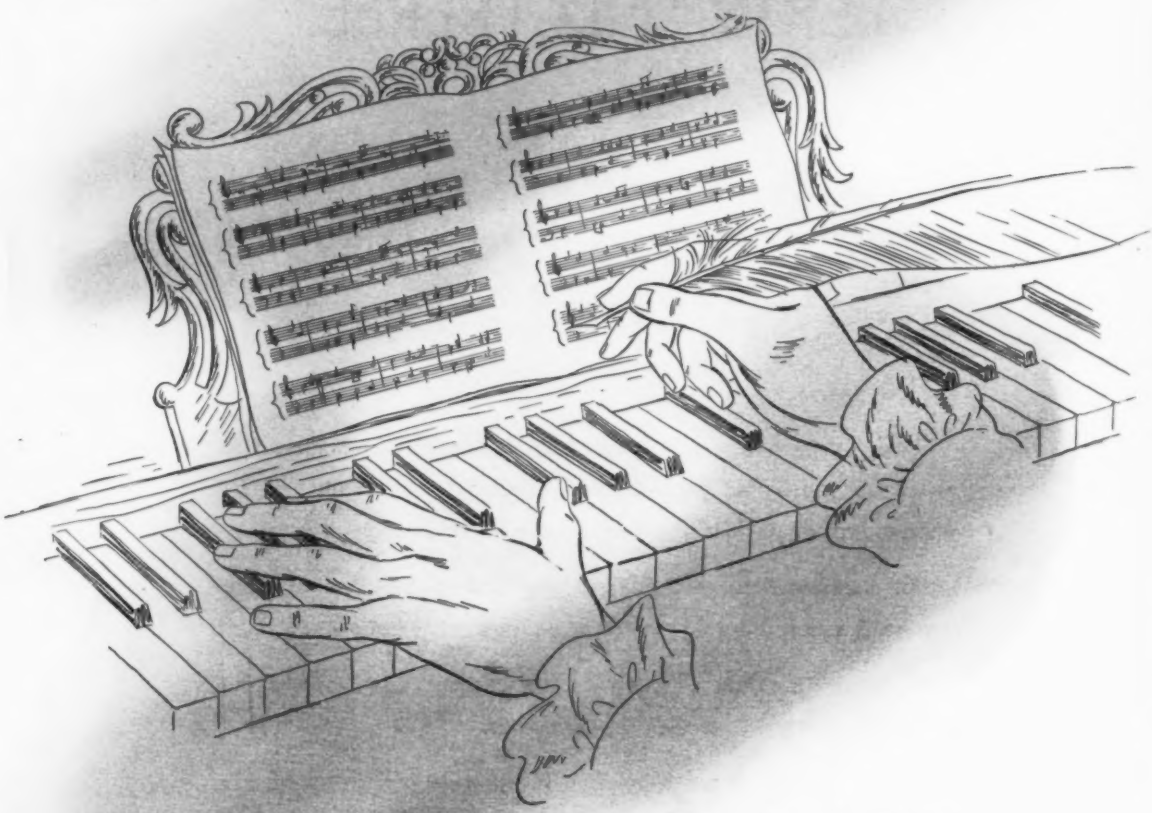

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Keeping Posted

B_{12} Now Cyanocobalamin

INSTEAD of the simple name B_{12} for this important vitamin, we now have an official synonym, Cyanocobalamin, according to the Third U.S.P. XIV, which was distributed during August. According to Lloyd C. Miller, Director of Pharmacopoeial Revision, "This change will introduce the accepted chemical name as a step toward eliminating as early as possible the confusion which has arisen because what is now known officially as Vitamin B_{12} is actually only one of a family of vitamins of which several members appear to be equally active. On an international level the WHO Subcommittee on Non-proprietary Names has adopted cyanocobalamin as the international non-proprietary name for the pure form of this important vitamin." All we can say is that they are welcome to it, certainly no one would want it for a trade-mark.

Many important revisions will become official on the effective date of this Supplement, January 1, 1952. Included is the change in requirements with respect to the limit of the contents on multiple-dose containers and the changes in the standardization and labeling of Liver Injection. Changes on multiple-dose containers are based on the recommendations of the Joint Study Panel from the U.S.P. and N.F. Contact Committees. Also definitions have been established for single-dose and multiple-dose containers. These are important because 37 U. S. P. Injections are restricted to single-dose containers. Also included is a list of products which may be packaged in multiple-dose containers, in which case the volume shall not exceed 30 cc. and an appropriate bacteriostatic agent shall be used unless specifically exempted.

The change in Liver injunction is profound, says Dr. Miller, in that the long-familiar procedure requiring clinical assay for approval of the manufacturing process will be supplanted by a microbial assay of every lot of Liver Injection. This removes the latter from being in a class by itself to being treated as other pharmaceuticals subject to official specifications and requirements. The U. S. P. microbial assay for vitamin B_{12} activity in Liver Injection is now official culminating many months of study by a special panel which directed an extensive collaborative assay in which almost the entire pharmaceutical industry was either a participant or actively interested.

The one new monograph added to the U. S. P. is Thiamine Mononitrate. Dr. Miller says that this has been shown to have certain definite pharmaceutical advantages over Thiamine Hydrochloride which has been official for several years. The monograph on Citrated Normal Human Plasma has been extensively revised and its title is now simply Normal Human Plasma. The rubric of the monograph is being changed to allow for present production practices.

Minor changes have been made in the assays or specifications of Amphetamine Sulfate, Ascorbic Acid, Bishydroxycoumarin Capsules, Calcium Chloride, Chloramphenico, Dextrose, Ephedrine Hydrochloride Capsules, Ergonovine Maleate Injection, Ergotamine Tartrate Injection, Estradiol, Heparin Sodium, Iodine Tincture, Lactose, Menadione Sodium Bisulfite Injection, several of the mercurial diuretics with respect to the test for mercury ion, Pentaquine Phosphate, Liquid Petrolatum, Phenolsulfonphthalein Injection, Pilocarpine Hydrochloride, Piperocaine Hydrochloride, and Testosterone Propionate Injection.

The definition of Synthetic Oleovitamin D has been substantially changed to provide unequivocally for the use of non-crystalline forms of the vitamin derived by activation of ergosterol and 7-dehydrocholesterol. Also changes in the sterility test for Penicillin G Potassium and Sodium have been adopted. These two forms of penicillin are not subject to certification by the Food and Drug Administration. The new test, which was worked out jointly between representatives of antibiotic manufacturers, the FDA and the U. S. P., is regarded as more rigorous than that hitherto employed by the FDA.

Emelin on European Drug Houses

EUROPEAN drug houses have advanced as rapidly in pharmaceuticals and therapeutics since the war as their U. S. counterparts, says Schenley Laboratories President Arthur C. Emelin, who, with six Schenley associates recently returned from a tour of Denmark, England, France, Spain, Portugal, Switzerland, and Germany. "I cannot say that their research is more advanced than ours," reported Mr. Emelin, "for in most places we found they are employing methods and products similar to ours. Where lack of equipment or funds makes that impractical, they are at least aware of what we are doing in the United States."

Penicillin plants are being erected at Elberfield, Germany, and Leon, Spain, under the direction of Schenley engineers.

Merck Reveals New Cortisone Synthesis

MERCK scientists now announce completion of the final steps for production of cortisone from four raw materials which are plentiful in nature and thus assure an eventual supply of this important drug for all who will be in need of it. The four raw materials used in the proposed process are ergosterol, a product of yeast metabolism; diosgenin, extracted from a Mexican yam; stigmasterol, from soy beans; and cholesterol, from the spinal columns of cattle and from wool fat. On May 11, Merck scientists reported that from these four raw materials they had produced the chemical compound, 3-acetoxy-11,20-diketo-allopregnane, which is an 11-oxygenated steroid. (Remember that cortisone must have an oxygen atom in the number 11 position, and this has proved the stumbling block in many attempts to synthesize cortisone.) The final steps in converting this steroid into cortisone were reported last month by Merck scientists, Dr. John M. Chemerda, group leader, Dr. E. M. Chamberlain, Dr. E. H. Wilson, and Dr. Max Tishler, Associate Director of Research & Development at Merck.

Naturally, large scale production of cortisone by this new process is a long way off, as before this can occur, the process will have to be improved, the supply of the raw materials has to be assured, and additional facilities must be built. Meanwhile Merck will continue to manufacture cortisone from the currently used raw materials until production from the new materials has been sufficiently developed to supply the full demand. Production by Merck is continuing at an increasing rate, with improvements in manufacturing efficiency constantly being made. A new production unit in Danville, Pa., is expected to be in full operation by mid 1952.

Another Step Toward Schering Sale

EVERY several months during the years following the close of the war another difficulty is said to have been overcome so that the stock of Schering Corporation can be offered for sale by the U. S. Government. Many times the offering of this company for sale by bids has been said to be only a few months away. In fact at one time, it appeared that the Government was already to advertise the sale. However, as problems said to be holding up the sale were cleared away one after another, nothing ever happened. Now another so-called problem in the sale of this company has been cleared away, and we shall see if this is the final problem or not.

This latest problem concerned a dispute over whether some 15 "captive" patents which have been licensed to various manufacturers would be included in the sale. A group in the Department of Justice had contended that the "captive" patents—those developed prior to Government seizure during World War II—should be given free of charge to any manufacturer asking for them. As these patents are an important part of the Schering assets, such action would have reduced materially the value of the Schering stock. However, the decision has been reached, it is said, to continue licensing of these patents with royalties from such patents accruing to the new owners of Schering. The patents which Schering has developed under Government ownership would also be part of the assets of the company sold to the new owner.

While it is as yet not definite as to when the stock of Schering will be put up for competitive bidding, another tentative date is said to have been set—this time for the coming fall.

Britain's Dental Care Deteriorating

THE sky-rocketing costs of Great Britain's health scheme are again forcing the British Government to reduce that country's already lowered dental health standards, says the Journal of the American Dental Association. Faced with increasing costs and an overwhelming public demand for dental services, the government is now proposing to use inadequately trained dental nurses to extract and fill children's teeth, says the Journal. Instead of trying to raise the level of children's dental health which has grown steadily worse, the British Health Ministry is now proposing a mass repair program by partially-trained personnel, it is pointed out.

Drug Industry Unites Against Bill

THE victory of the drug industry in having the Durham-Humphrey bill passed by the House after it had been amended on the floor in a manner which made it acceptable to the industry proves what can be done when the industry acts as a unit, even though in this case, the National Association of Retail Druggists was still not on the side of the rest of the industry. And while it is admitted that a decisive factor in the victory was the aggressive cooperation of the American Medical Association, it must be appreciated that certain parts of the drug industry stirred themselves sufficiently to secure this cooperation. It is all very well for certain sections of the drug industry to continually give the fullest cooperation to the medical profession when it is requested, but it is pleasing to see that the time has arrived when the drug industry can request and obtain like cooperation when it is needed.

The Durham-Humphrey bill as it passed the House is completely stripped of the administrative definition which would have given the Food and Drug Administration the power to decide what drugs should be restricted to sale on prescriptions. In place of this administrative definition there has been substituted the objective definition suggested by the industry which reads: "because of its toxicity or other potentiality for harmful effect, or the method of its use, or the collateral measures necessary to its use, is not safe for use except under the supervision of a practitioner licensed by law to administer such drug."

The task remains of seeing that the bill is enacted in the same form on the Senate where it was introduced in the objectionable form. Hearings on the bill will be held by the Senate Committee on Labor and Public Welfare, and it is up to the industry to try and induce this Committee to report the bill to the Senate in the form in which it was passed by the House.

The victory scored in the House is most pleasing for the reason that it proves that the Food and Drug Administration cannot obtain from Congress arbitrary power when the drug industry can prove that this power is not in the public interest. This experience should give renewed strength to the drug industry in its willingness to act as a unit in fighting these moves by the FDA to increase its power beyond all bounds of reasonableness. Let us hope that the industry will now appreicate its strength when it acts as a unit.

Tuberculosis Study Grant

"THE biological properties of tubercule bacilli that are resistant to streptomycin" will be the subject of a study at the Trudeau Sanitarium, Saranac Lake, N.Y.

for which the U. S. Public Health Service has made a grant of $25,596. It is pointed out in making this grant that while streptomycin has been found effective in destroying some strains of tubercule bacilli, the drug appears to have no beneficial effects in cases of tuberculosis caused by other strains of the bacilli. William Steenken Jr., a member of the Trudeau Foundation's research staff, will be in charge of the project.

Health Broadcasts

THE Health Information Foundation, co-producer with the National Broadcasting Company of five half-hour radio documentaries on community action for better health, is making transcriptions of the programs available for rebroadcast and for use by community groups on play-back machines. The programs, which have no commercial sponsorship were particularly well received when originally presented over the NBC network May 12 to June 9. The stories in brief of the five transcriptions are:

They Bid for Health: How the citizens of Alexander County, N. C., which lacked hospital facilities, with pluck, imagination, and persistance, raise necessary funds to build a model combination hospital and health center.

Good Health, Good Box Office: When in Georgia, Atlantans are offered "screen tests" to check for several diseases at one time, members of the Negro community stage a mammouth jamboree which brings large numbers of children into the clinic.

Health Comes Calling: Four hundred citizens of Clinton County, Ohio, ring every doorbell in the county to make a health survey. Facts are uncovered which are leading to improved health and hygiene on the farms and in the towns.

Hospitals Join Hands: Working together in the way that has brought greatness to America, the citizen boards managing voluntary hospitals of Minneapolis, Minnesota, have a combined school of nursing, will unite other activities.

What the Doctor Ordered: Physicians of Oakland, California, cooperate to meet what seem to them reasonable criticisms by instituting a program to assure all residents of Almada and Contra Counties prompt 24-hour-a-day medical attention every day.

"Something Extraordinary"

UNDER the title of "A Reporter at Large" and the subtitle of "Something Extraordinary", Berton Roueché writes in the July 28th issue of the New Yorker of his visit to the laboratories of Chas. Pfizer & Co. in Brooklyn. Mentioning that the start of the company was based on the manufacture of santonin, and that "from that fragile beginning the firm gradually expanded its facilities to embrace the manufacture of a robust line of basic chemical compounds (bismuths, mercurials, iodides, tartars and the like) and the production, by a fermentation process which they pioneered, of citric acid, [which products] together with a select alphabet of vitamins constituted the bulk of the company's output" until about ten years ago, Mr. Roueché deals most interestingly with the subject of antibiotics.

Stating that "The major source of antibiotics is the venerable family of parasitic and saprophytic plants known as fungi [and that] its members include smuts, rusts, molds, yeasts, mildews, and mushrooms," he traces the use of this type of product in medicine back at least 3,000 years, mentioning uses by the Chinese, the ancient Egyptians, in India, by the American Indians, by Hippocrates and Discorides. "As an empirical science, fungus therapy reached its apogee in Pliney's time. The frequently shrewd practical understanding of the peculiar powers of mushrooms and yeast and mold that the Greeks and early Romans managed to achieve was, until the past ten or fifteen years, never equalled."

Following this discussion, Mr. Roueché outlines the discovery of penicillin and the development of other Antibiotics and then describes his visit with Pfizer President John E. McKeen and his tour through the biological research laboratories with Jasper Kane, Pfizer director of biochemical research. During the visit he learns of the screening of soil samples and of the great contribution of Waksman to this process. He reports most interestingly on the search for new antibiotics, quoting Dr. Kane as to the element of luck involved. Said Dr. Kane:

"But terramycin wasn't the first antibiotic we hit. The first was streptomycin. So was the second. I guess we've rediscovered streptomycin at least a hundred times. Everybody has. It's quite common. Only Waksman got there first."

Bill to Amend Lanham Act

LAST month Senator Wiley introduced a bill (S.1957) to amend the Lanham Trade-Mark Act. In his statement made when introducing the bill, Senator Wiley says that during the four years of operation of the Lanham Act (the act became effective July 5, 1947), "some defects in substance and some defects in administration have become apparent." He also stated that about two years ago authorized representatives of some twenty-six legal and trade associations formed a Coordinating Committee to study the effects of the law and to recommend such amendments as were agreed to be desirable. James F. Hoge, counsel of the Proprietary Association, is the chairman of this Coordinating Committee. In giving a description of the bill, Senator Wiley states:

"As is generally the case when Federal laws are completely revised, compromises were effected, and errors in draftsmanship crept in without any intent of changing the effect of the provisions. Four years of experience under the revised law have led trade-mark owners and their lawyers alike to agree upon amendatory provisions which will result in clarification, simplified administration, and substantive changes consonant with present day commercial practices and the tenets of our jurisprudence. Although it is probable that some individuals may disagree with some provisions of the amendatory bill, generally speaking it represents the assent of the legal and trade associations participating in the discussions."

A great part of the provisions of the bill relate to technical matters pertaining to trade-mark registration procedures, while some parts of it relate to substantive aspects of trade-mark ownership and rights. The Coordinating Committee has put intensive study and discussion into working out the provisions contained in this bill. It held its first meeting in New York in January 1949, and subsequent meetings were held there and in Washington, Chicago, and Atlantic City. Between meetings of the general committee, subcommittees functioned on various phases of the work. It appears that the bill deserves the active support of all trade-mark owners in this industry.

We Introduce "Animal Health"

"ANIMAL Health" is the title which we have given to a new department which we introduce this month as a regular monthly feature. The constantly broadening application of the products of this industry to the field of all sorts of animals, other than humans, makes it essential that we report regularly on the developments in that quarter. Under the title of "Animal Health" we intend constantly and thoroughly to cull the literature and abstract applications of the products of this industry to control and prevention of disease, as well as to improved conditions and a state of well being in the lower animals.

Industry-F.D.A. Split

THE all-out drive for power on the part of the Food and Drug Administration in pressing for enactment of the Durham-Humphrey Bill is having the result of completely severing the relationship of mutual cooperation on the part of the drug manufacturing industry which has existed ever since the enactment of the Food, Drug, and Cosmetic Act in 1938. It is true that the spirit of cooperation which existed for many years under this law has been more or less strained on occasions during the past two or more years, but never before has the industry lined so solidly against the FDA. Furthermore in this fight the drug manufacturers have brought in the American Medical Association on its side.

We fail to see why the officials of the FDA desire to risk abandonment of this cooperative spirit which has meant so much to them in effective enforcement of the Food, Drug, and Cosmetic Act. But then there is no accounting for the vicissitudes which are the inevitable result of different persons coming into power. Neither is there any accounting for the attitude of a Government agency which is in fact only a sub-agency which desires to do everything in its power to satisfy its master who heads up the agency as a whole. Many of these individuals who rise to head enforcement agencies are persons who have no minds of their own, yet are greatly impressed with the fact that little as they really are as individuals, they are able on occasions, to bring almost to their knees the captains of industry who are making this country what it is and who are responsible in large measure for these people having positions of responsibility.

Medical Television to Europe

FOR the first time in European medical history, medical television will be taken on a tour of Europe so that surgeons and physicians may view televised operations and clinical procedures conducted by leading members of their profession. As a result of a joint arrangement between E. R. Squibb & Sons International Corporation and RCA, surgical demonstrations and educational programs are being conducted this month and next, in six European countries to illustrate the training advantages of television. This project, named "Video Medico", which in the past year was brought to nine Latin American countries, is designed to demonstrate an important advance in medical education which medical leaders expect will revolutionize the study of medicine. Travelling by air, the scientific team and equipment is making stays of approximately ten days each at Copenhagen, Stockholm, Brussels, Catania, Turin, Rome and Milan.

Schering Develops Cortisone Method

SCIENTISTS of the Schering Corporation have developed a method of producing cortisone which is said to simplify the process and yields 50 times the amount which could be manufactured two years ago from the same quantity of cattle bile source material. Schering's President Francis C. Brown is authority for the statement that Schering has become the world's second commercial source of supply and has launched distribution of Cortogen Acetate Ophthalmic Suspension, first of a series of cortisone preparations which open the way to treatment of diseases other than arthritis.

Schering, which Mr. Brown states is the world's largest manufacturer of sex hormones, has developed its own process for synthesis of cortisone during the past two years. By this method a gram of cortisone is being produced from the bile derived from only eight head of cattle, instead of 400 needed in 1949, and the series of chemical steps involved has been cut from the old 37 to under 20. When making this announcement, Mr. Brown stated that Schering had available stockpiles of source material sufficient to meet any foreseeable demand for the Cortogen preparation for treatment of a wide range of eye afflictions and that rapidly increasing production would enable the company to offer the drug in tablet form for treatment of rheumatic and other diseases soon. Said Mr. Brown:

"The cortisone scarcity has not been due to shortage of raw materials. It has been a normal scarcity arising from the length of time required to shift the intricate processes for manufacturing cortisone from the research laboratory to the manufacturing plant. Such shifts require considerable time to design, procure, and erect the manufacturing equipment and installations in order to make possible the manufacture of the drug at reasonable prices and in adequate quantity."

Schering has invested nearly one million dollars in different phases of its cortisone program. It has set up equipment installations in its hormone manufacturing plants at Bloomfield and Union, N. J., and obtained raw materials from sources in Europe and South America to supplement supplies of starting materials obtained from domestic sources.

The eye suspension being marketed by Schering contains five milligrams of cortisone per cubic centimeter.

Chain Store Group Aids Fair Trade

THE National Association of Chain Drug Stores, through its board of directors, has voted to contribute $10,000 in support of the "intensified information program" being conducted by the Bureau of Education on Fair Trade to develop public understanding of the voluntary fair trade laws. Restoration of the fair trade laws to full legal status and effectiveness is the principal objective of this program. This is being sought through intensification of the Bureau's informational activities to show how fair trade benefits the consuming public, and protects the nation's small business economy and manufacturers' distribution systems from unfair competition. The campaign will be directed to the public, key opinion-forming groups, editors and publishers of U.S. newspapers and magazines, and state and national legislators. It is anticipated that almost two million retailers, representing more than twelve industries with a stake in fair trade, will join the drug industry's program.

Large Dextran Plant Under Way

LARGE scale production of dextran, a blood plasma extender, will be under way in a matter of months by Commercial Solvents Corporation which company is constructing a million and a half dollar plant in Terre Haute, Indiana, having an initial minimum productive capacity of one million pints of dextran annually. The decision to proceed with this project followed the announcement that the company's material, sold under the brand name of Expandex, is the first dextran product to be approved for use as a blood extender in the United States. Although dextran was proposed as a blood plasma volume expander in this country several years ago and has been extensively used in Europe, a dextran product entirely acceptable to critical scientific and medical authorities in this country has never been made prior to development of the CSC product, which was the result of 2½ years of intensive research in the company's laboratories.

Research in progress suggests that the product is excreted by the kidneys or metabolized by the body, as indicated from the use of radioactive material given to experimental animals. The radioactive dextran was made from radioactive sucrose produced at Argonne National Laboratories by Atomic Energy Commission scientists working with researchers from Commercial Solvents Corporation.

Cortisone from Sisal Waste

AN ENTIRELY different source of cortisone from any announced in this country was recently announced by the British Medical Research Council. It is said that hecogenin, the basis of cortisone, has been discovered in the waste of sisal, of which 10,000 tons or more is available in East Africa as a cultivated crop. Sisal is a strong grass from which cordage is made. The British Medical Journal, in commenting on this discovery, said that "it does seem that at least the supply of cortisone will be freed from the restrictions now imposed by the quantity of bile acids now available, though it cannot yet, or perhaps ever, become a cheap medicament."

Macy and Drug Prices

WHILE browsing through Macy's drug department one hot day last month we saw people buying Bayer's Aspirin in bottles of 100 for 24 cents, and sales were not restricted to one bottle. Also noticed that while the economy size of Ipana was priced at 36 cents, against a fair trade minimum of 57 cents, the economy size of Squibb's Dental Cream was quoted at 63 cents, against a fair trade minimum of 67 cents—just 6 per cent to maintain that cash policy. The interesting thing is that Squibb's Dental Cream is made in Brooklyn and therefore comes under the New York Fair Trade Act so far as sales at Macy's are concerned. This doubtless has something to do with Macy's only making a mild price cut on the item, although even a mild cut can bring court action and an injunction, but perhaps Squibb does not consider that other retailers would be bothered by this slight price-cut, especially if the subway fare going and coming is 20 cents, and certainly no one can save money that way. Price-cutting on all standard items is the rule at Macy's, and the department has again become a loss leader department not only to promote sales in other departments in the store, but also to promote sales of Macy's private brand drugs and cosmetics with which the department is loaded.

Claims for Suntan Preparations

LIMITATIONS in the advertising of suntan or sunburn preparations have been set down by the National Better Business Bureau. The recently published guide suggests that "a properly formulated preparation labeled with adequate directions for use may be properly advertised to prevent sunburn or to permit tanning without harmful or painful burning. However, no preparation may be truthfully advertised to 'tan' the skin or 'give you' a tan because tanning is produced by ultraviolet radiation and not by the sunburn preventive or suntan preparation." The report also recommends that "specific claims as to the length of time which an individual will obtain a satisfactory tan or a deep tan should not be made in advertising or labeling." There are too many variables to permit such claims. The bulletin points out that "no preparation may truthfully be advertised to 'tan' or 'give you' a tan because tanning is caused by untraviolet radiation and not by the sunburn preventive or suntan preparation. Substances containing dyes or stains may darken the skin temporarily, but that is not 'tanning.' A tannic acid solution darkens on exposure to light, coagulates and combines with surface protein of the skin, and forms a black insoluble compound with the iron salts that may be in the perspiration. *This result, is not 'tanning,' but skin darkening*, although a suntan preparation may contain tannic acid as an ingredient." The bulletin discusses the mechanism and ingredients of suntan preparations to quite an extent.

Apples and Perfume

NOW that the apple crop is very large in this country, the International Apple Association is trying to develop ways of developing markets for apple by-products. One of these by-products, according to Samuel Fraser, secretary of the association, is to make perfume from apples. Mr. Fraser, who has devoted more than sixty years to the study of apples and its uses, says that he is urging the Philadelphia regional laboratory of the U. S. Department of Agriculture to take the one more step in its development of apple essence that will make it the basis of a perfume, which, he says, is of such elemental appeal that the perfumers can think of no other name for it than "Eve." Mr. Fraser points out that the association, growers, or processors are not interested in making the perfume, saying, "We must leave that to the more sophisticated members of the cosmetic trade, but we will have the raw material for them." With this and the already established therapeutic and cosmetic uses of apple by-products, Mr. Fraser foresees a ready outlet for the disposal of such surplus crops as this year's, which is already leaving 2,500,000 bushels unsold in the State of Washington alone.

He points out that Parke, Davis & Co. is marketing a dentifrice based on the powdered pulp left over from apple processing. He said that the detoxicating effect of this pulp was promising a most effective and tasty guard against tooth decay. The effect against microorganisms was demonstrated during the war and is being further developed by use of the apple's detoxicating effect in wound dressings. The fifteen years' work of the laboratory has already produced an essential oil which restores the flavor of apple products when added after heat and sterilization have impaired the original. There is only one more small step necessary to produce the perfume constituent, which might well use up all the apple skins and cores now regarded as refuse.

Facing Fair Trade

WHILE it is true that the hectic price wars which followed close upon the heels of the Schwegmann decision have subsided, pricing of the products of this industry in many sections is far from desirable from the point of view of the retail druggists and the manufacturers. No longer is the battle "not to be undersold" a matter of daily or hourly price changes and heavy advertising, but, nevertheless, suggested fair trade minimums mean very little, or nothing to a large number of establishments who are pricing the products of this industry strictly in accordance with their own wishes. If one is in New York he has only to visit Macy's, or its avowed competitors, to see what we mean. Last month, Bayer's Aspirin was selling at 24 cents per bottle of 100 tablets compared with a fair trade minimum of 59 cents. All manner of dental products, shaving products, deodorants, and many others, were in open display at prices well below the fair trade minimums in the large majority of instances. We did notice an exception in the case of Squibb's Dental Cream, which is made in New York State and therefore is still under the control of the New York State Fair Trade Act so far as Macy's is concerned. This product, with a fair trade minimum of 67 cents, was priced at 63 cents. While this is a price cut which is actionable under the law, it will be seen that this is a price cut of exactly 6 per cent below the fair trade minimum. This is an instance in which Macy is evidently trying to prove that its policy of underselling competitors by 6 per cent because it sells only for cash, is in effect throughout the store. Macy probably figures it can get away with this slight cut for the reason that no one could save anything by making a special trip to Macy's to buy the product if he had to spend subway fare.

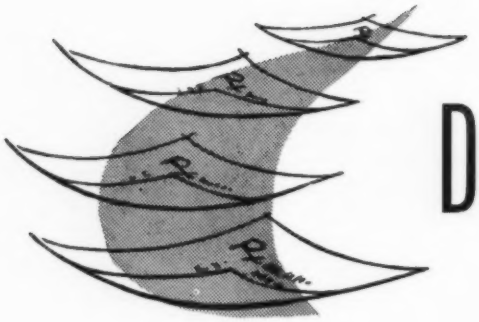
The danger to manufacturers lies not in the fact that Macy or a few others sell their items at cut prices, but it lies in the fact that this sort of selling will spread on their particular items with the result that no one will be able to sell the items at prices which will yield any profits, and most likely will suffer a loss on every sale. And while Macy or its competitors might be able to, and perfectly willing to take these losses, the retail druggists cannot afford to take them. Certainly no retail druggist can afford to sell Bayer's Aspirin at any price which would be attractive to consumers without taking a serious loss on each sale so long as Macy sells the item at 24 cents. The cost of Bayers Aspirin to the retailer is $6.00 per dozen, or 50 cents each. In the case of chains or other big buyers who are able to get the wholesalers' discount in addition to that granted the retailers, this cost might be cut to 43 cents. But even selling at actual cost of the goods, which naturally represents a loss to the retailer, the price would still not be especially attractive when compared with 24 cents.

Products do not develop into loss leaders throughout the trade overnight. It is rather a situation which builds up when retailers begin to realize that they are losing business on items which long had been fast sellers in their stores. They look

for the reason and they find that the reason is price. Then they realize that they are not only losing the business on these fast sellers, but they are also losing store traffic for the reason that people do not even come into their stores in search of these items. Next comes the realization that the cut prices must be met even though the sales mean losses. But the druggist has no desire to try and make every customer who comes into the store buy one or more of these products on which he is forced to cut prices for survival. So, in order to protect himself against any excessive and unnecessary losses, he puts the products in question out of sight and prominently displays similar products on which he can still make a profit. Under these circumstances he is still able to give any customer who comes into the store the product which he asks for at a competitive price, but he is slowing up as much as possible sales on those items which have gotten into the class of loss leaders.

When a product gets into this situation, the manufacturer has a real problem on his hands. Although he spends huge amounts of money on advertising, he has major part of upwards of 50,000 of his principal outlets doing everything possible to thwart the sale of his product through their stores. So instead of having all these outlets trying to promote the sale of his product, just the opposite is true, so that the effect of the effort of each one of these outlets is doubled to his detriment. Further than this, in companies afflicted by one or more of their products being selected as loss leaders, the top executives, lesser executives, salesmen, advertising department, and practically everyone concerned with the item in any way have nothing but constant headaches which destroy company morale and give the large majority of them a feeling of complete frustration. And while the product might continue to sell in fair volume, because of previously established consumer demand and because of continued heavy advertising appropriations, competitive products, not beset with this condition, slowly but surely improve their relative positions in the market for this particular type of product.

Meanwhile the personnel of the company with the loss leader product on its hands must turn its efforts to ways of trying to bring the situation under control, and thus regain the good will and cooperation of the retail druggists. Such steps as immediately stopping sales to known predatory price-cutters are taken in the early stages. Then comes the almost hopeless task of trying to trace down the other accounts who are in turn selling the goods received from the manufacturer or wholesaler to any of these known price-cutters. This method of trying to control price-cutting was quite widely indulged in by leading companies before the era of fair trade. Manufacturers constantly studied the volume of sales to the outlets on their books. When they found the sales to a particular outlet rising rather sharply for no particular reasor, they thought that they had put their finger on the one who was supplying one or more known price-cutters. The next step was to confer with this outlet and, if necessary, stop selling it. But this (*Continued on page 412*)



Durham-Humphrey ...round one

WHILE the Durham-Humphrey bill was amended on the floor of the House in a manner which makes it acceptable to the drug and pharmaceutical manufacturers, the fight to enact this bill in this form is only half won. Let us consider what has happened thus far.

The bill as reported to the House by the House Committee on Interstate and Foreign Commerce, which voted 19 to 4 to report the bill in this form, contained the following objectionable paragraph:

"(B) because of its toxicity or other potentiality for harmful effect, or the method of its use, or the collateral measures necessary to its use, has been determined by the Administrator, on the basis of opinions generally held among experts qualified by scientific training and experience to evaluate the safety and efficacy of such drug (and, where a public hearing is required by paragraph (5), on the basis of evidence adduced at such hearing by such experts), to be safe and efficacious for use only after professional diagnosis by, or under the supervision of, a practitioner licensed by law to administer such drug; or"

When the bill was on the floor of the House, the O'Hara amendment adopted by a vote of 141 to 85, struck out the above language and substituted the following:

"(B) because of its toxicity or other potentiality for harmful effect, or the method of its use, or the collateral measures necessary to its use, is not safe for use except under the supervision of a practitioner licensed by law to administer such drug; or"

Inasmuch as the bill is generally referred to as the "prescription bill", and was sponsored by the National Association of Retail Druggists and the Food and Drug Administration for the avowed purpose of clarifying the uncertainty which existed concerning the authority of the FDA in the field of prescriptions, the new language covers the subject adequately. The original language of the bill as reported by the House Committee went far beyond the avowed purpose of the

bill and entered the realm of efficacy and other phases which are matters subject to various opinions. This original language would have given the FDA the power to act in these matters subject to varying opinion in a final manner.

The bill as it passed the House, divides drugs into two classes. The first class of drugs under the bill are those which can be sold only on prescriptions, and their labeling must include the legend: "Caution. Federal Law Prohibits Dispensing Without Prescription." The drugs in this class are those which are habit-forming, unsafe, poisonous, or dangerous for one reason or another, and those which are subject to the New Drug Section of the Food, Drug, and Cosmetic Act. Prescriptions for drugs in this classification cannot be refilled without authorization of the original prescriber, which authorization may be given in writing or orally over the telephone. In the other class will be all other drugs, and prescriptions for this classification may be refilled upon request of the person for whom the prescription was written. This second class is really to cover those drugs which can be adequately labeled and sold over the counter without a prescription. This would include products which are advertised to the public and those which are promoted only through the prescribing professions. However, the language of the bill is such that it will eliminate the so-called "straddle" labeling. Further this division into two classifications would remove the confusion which now exists concerning prescription refills. The bill places the responsib'lity for determining the classification in which any of his products belongs squarely upon the shoulders of the manufacturer, action by the Food and Drug Administration being assured if this agency thinks that any manufacturer has improperly classified any product.

Therefore, the bill as passed by the House clarifies the prescriptions powers of the Food and Drug Administration so the retail druggist knows just where he stands. Furthermore it authorizes telephoned prescriptions, which has been a problem of the retail pharmacist for a long time. In addition it clarifies the matter of labeling of products for over-the-counter and prescription sale, and gives the Food and Drug Administration full power to act in instances where they believe that a product has been labeled by the manufacturer to put into one of the two classes in which it does not belong. Under these circumstances, similarly formulated products of all manufacturers should be labeled so as to place them all in the same one of the two classifications, and this should further eliminate any confusion on the part of the retail pharmacist in dispensing. The druggists have complained that in the past, products similarly formulated have been labeled by some manufacturers in a manner allowing over-the-counter sales, while other manufacturers labeled them in a manner which restricted their sale to prescriptions Such differences in labeling could not exist under the bill as passed by the House, and therefore the druggist would be certain that his over-the-counter sale was proper if the product was so labeled.

So far, so good. However, the bill has only passed the House and will now come before the Senate It is up to the drug industry to see that it is enacted by the Senate in the same form in which it was passed by the House The bill as it has been introduced in the Senate contains the objectionable paragraph which was removed on the floor of the House by the O'Hara amendment And, unfortunately, in the Senate this bill is being considered by the Committee on Labor and Public Welfare, rather than by the Committee on Interstate and Foreign Commerce which generally considers amendments to food and drug legislation The first step on the part of the drug industry is to work diligently to get this committee to report the bill to the Senate in the form in which it was passed by the House.

The Senate Committee has announced that it will hold hearings on the bill before a subcommittee of which Herbert H. Lehman, of New York, is Chairman. Other Democratic members of this subcommittee are Lester Hill, Alabama. Matthew M. Neely, West Virginia; and Hubert H. Humphrey, Minnesota. Republican members of the subcommittee are H. Alexander, New Jersey; Irving M. Ives, New York; and Richard M. Nixon, California. Other Democrats on the Committee on Labor and Public Welfare are James E. Murray, Montana; Paul H. Douglas, Illinois; and John O. Pastore, Rhode Island. Other Republicans

(Continued on page 402)

Indelible Lipsticks

THE advent of the new super-indelible lipsticks has caused a minor revolution to take place in the cosmetic field. Sales have been quite successful and many manufacturers have changed their formulae so that they too may participate in this market. Current interest in this preparation is still running high and further improvements may result. Without having made any attempt to determine what methods the various manufacturers are currently using in formulating their preparations, the author will restrict the contents of this article to observations he has made in the past, some of which may or may not agree with the current formulations.

Trends in lipsticks have changed through the years. In the early 1930's there was a much greater emphasis on high-staining lipsticks than there has been up to the advent of the current highly indelible stick. At that time the lipsticks were formulated with castor oil as the principal part of the vehicle and relatively large quantities of tetra brom and di brom fluoresceins incorporated as the indelibility producing agencies. Since there was a greater emphasis on the indelible stain at that time, than on the superficial pigments in the lipstick, this seemed to be the proper thing to do. It was noticed, however, that there was a very definite relationship between the concentration of bromo acids being used and the incidence of complaints due to irritations. Attempts were therefore made to lower the concentration of these dyes and still try to keep the stain at the same high level by incorporation of agencies which could dissolve the dyes to a greater extent than could castor oil. At that period, however, the substances which could do this properly were not commercially available. Many of the substances used were too volatile and caused shrinkage of the stick due to evaporation or were too soluble in water.

There was at least one preparation on the market which incorporated the eosin sodium salt in a base consisting of the usual lipoid substances and a small amount of water. Greater staining was possible from such a medium since this eosin was in complete solution and therefore more easily able to form a junction with the skin proteins.

The trend however was towards a film possessed of high gloss and moistened appearance. The trend also was towards greater artificiality in the color of the film. Gradually it dawned on us that women no longer wanted a stick which enhanced the natural appearance of their lips and whose sole function was to deepen their color, but one which was highly pigmented so that an entirely new color was achieved which did not at all resemble the natural lip coloring.

Under the new set of market conditions the indelible coloring matter was not really necessary since the

by Harry Hilfer

applied film made no pretense towards a natural appearance. Actually their use could have been dispensed with, but in practice their concentration was reduced to perhaps 30 per cent of their previous amount and the concentration of lakes and toners doubled and even tripled. Castor oil was the universal chief constituent of lipsticks because of its high viscosity and because of its ability to dissolve the bromo acids to a greater degree than any other fixed oil. Some sporadic attempts were made to introduce new high staining lipsticks during this period, but none of them met with success. This was true despite the average woman's notorious fickleness towards the same lipstick brand. Actually most women would change their brands if any new angle were offered. Sometimes she would be satisfied with the change but more often she would try something else the next time. The perfect formula for marketing the lipstick seemed to be to introduce a new shade as frequently as possible so that the desire for something new could be satisfied.

Recently, however, a trend seemed to start back towards the natural appearing lips once more, and I believe that this trend has caused the newest highly indelible stick to become more successful than its predecessors.

There are a number of factors, insofar as their formulation is concerned, that exist now but were not apparent earlier. There are a greater variety of synthetic materials which can more easily be used, and there are also available some dyes with greater staining potentialities than the old bromo acids. Most notable of the synthetic solvents are the availability of the propylene glycols and polyethylene glycols, also the tetra hydro furfuryl esters as well as tetra hydro furfuryl alcohol. As staining agents the advent of the tetra chloro tetra bromo fluorescein also contributed its share.

I am rather surprised that the use of the halogenated phthalic acid intermediate has not extended beyond the tetra bromo derivative, because fluoresceins made with halogenated phthalic anhydride universally exhibit stronger stains than do their non halogenated homologues. For example, I am certain that a di bromo tetra chlor fluorescein would exhibit a stronger orange reddish stain than would di bromo fluorescein, and perhaps in a more desirable shade.

In the current trend there has been a greater attempt towards increased solubility of the staining agents than formerly. This may be accomplished by a number of methods. Propylene glycol, which is non toxic, is a good solvent for the fluoresceins. In addition it is soluble enough in the fixed oils so that a large enough quantity may be used to effect better solution of the bromo acids in the lipstick vehicle itself. Too large an amount would have to be avoided since it would cause the film after application to be too easily removed by water. In my own experience, I have found that the more soluble in water is the solvent, the *quicker* does the stain appear. The disadvantage, however, lies in the fact that the film would be too easily distorted, because of the wetting of the lips. Propylene glycol esters, though not as good solvents for the dye, lessen the tendency towards distortion. A mixture of the

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BLACK STAR PHOTO

by Milton A. Lesser

Polyethylene Glycols

NOT so long ago, a series of polyethylene glycols was developed for industrial purposes. With their introduction, it was predicted that these compounds would find applications in the preparation of ointment bases and other pharmaceutical products. This prediction has been fulfilled and the polyethylene glycols have become important raw materials for the drug and cosmetic industry.

The growing usefulness of the polyethylene glycols, both in this country and abroad,[1-2] is attributable to their unusual properties, particularly their blandness, low order of toxicity, water-solubility, and wide compatability.[3] Chemically, the polyethylene glycols may be described as the condensation polymers of ethylene oxide and water, represented by the formula $HOCH_2(CH_2OCH_2)nCH_2OH$ where n increases in value with the increase in the molecular weight of the polymer. By varying the molecular weight a range of products varying from viscous liquids to hard wax-like solids can be obtained.

Thus, the polyethylene glycols with average molecular weights ranging from 200 to 600 are all viscous, light-colored, somewhat hygroscopic liquids of low vapor pressure. Those above 1000 in molecular weight are wax-like solids that are distinguished by the registered trade mark, "Carbowax." This is owned by the manufacturers of these compounds, the Carbide and Carbon Chemicals Corp., New York. This Carbowax designation is used in the industrial literature and in most of the technical and scientific literature as well. By adjusting the proportions of polyethylene glycols and Carbowaxes in a mixture it is possible to prepare a wide range of liquids, pastes and solids of varying viscosity or melting points. It should also be mentioned that these compounds can be reacted with fatty acids to yield a variety of useful esters. However, such derivatives will not be discussed in this review.

The status of these compounds in the drug industry is indicated by the fact that polyethylene glycol 400 and polyethylene glycol 4000 were admitted to the latest revision of the U. S. Pharmacopoeia. A mixture of equal parts of these materials forms the official Polyethylene Glycol Ointment, U. S. P. XIV. Such a base is being widely used as an ointment vehicle[4] and it is used for this purpose in the fungicidal Compound Undecylenic Acid Ointment N. F. IX. In addition, polyethylene glycol 300, and Carbowaxes 1500, 1540 and 4000 are listed in the "New and Nonofficial Remedies" of the A. M. A. This semi-official text[5] also lists a number of carbowax-containing preparations as "accepted" by the Council on Pharmacy and Chemistry.

Laboratory and clinical investigations,[6-9] as well as the proof of extensive practical use, have put these materials on a sound pharmacologic basis. The studies of Smyth, Carpenter and Weil,[10] for example, presented evidence indicating that the acute oval toxicity, dermal toxicity and irritating properties of the polyethylene glycols are very low.

Consideration of the physical properties of these

(*Continued on page 378*)

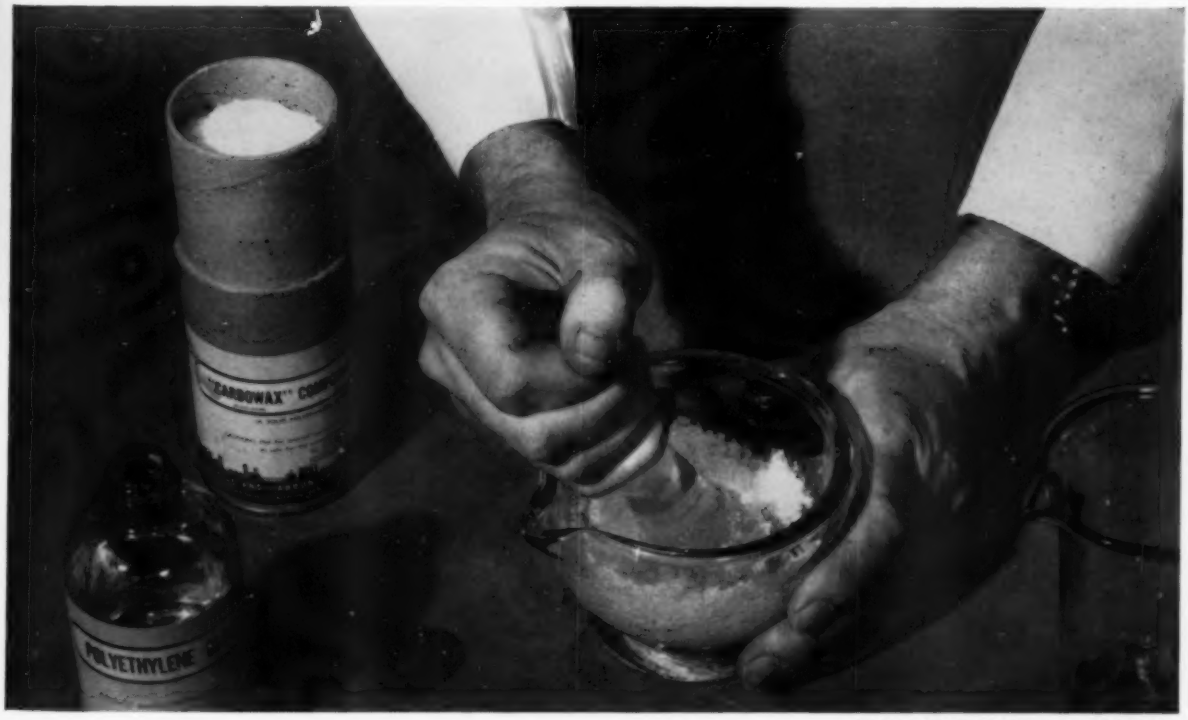
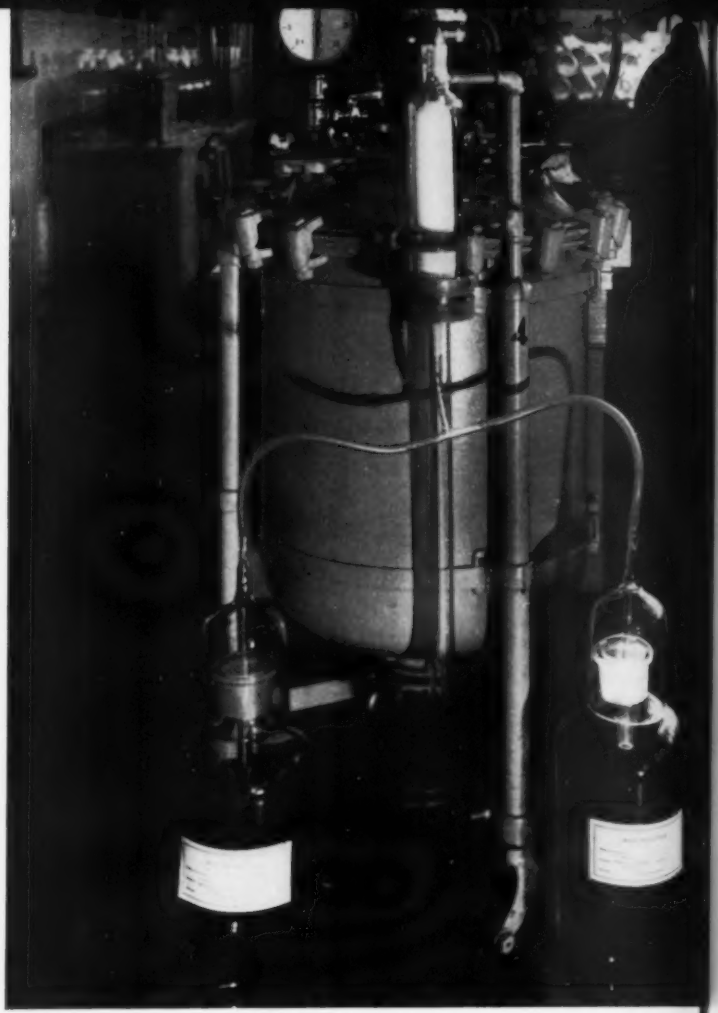


PHOTO COURTESY HOFFMANN-LA ROCHE, INC.

by G. F. Siemers
TECHNICAL DIRECTOR, VITAMIN DIVISION,
HOFFMANN-LA ROCHE

Multivitamin Preparations*



PHOTOS COURTESY HOFFMANN-LA ROCHE, INC.

THE availability of high potency concentrates of synthetic vitamin A palmitate in the neighborhood of one million units per gram has greatly simplified the production of multivitamin sugar-coated compressed tablets and hard gelatin capsules containing dry mixtures. Common absorbents such as silicon dioxide, magnesium oxide, dicalcium phosphate and powdered defatted cocoa are suitable for preparing dry dispersions of the vitamin containing up to 200,000 and more units per gram. Selection of the absorbent material should depend on the active ingredients in the formula. A product with labeled potency of calcium and phosphorous would naturally make dicalcium phosphate the most desirable absorbent. SiO_2 and powdered defatted cocoa, or mixtures thereof, seem to have an advantage as absorbents in the manufacture of dry dispersion for hard capsule products. Certain antioxidants or mixtures of antioxidants such as ascorbic acid, sodium ascorbate, ascorbyl palmitate, tocopherols and propyl gallate have been found practical in stabilizing the biological activity of vitamin A in these dry preparations. Tocopherol added as an antioxidant should not be esterified. Tocopherol acetates do not act as antioxidants in tablet formulae. It is possible to prepare dry dispersions of synthetic vitamin A containing 200,000 U. S. P. units per gram in the customary equipment in tablet manufacturing departments. Processing losses of vitamin A in this manufacture are in many cases not measurable. Loss after processing the dry dispersions into hard capsules and coated tablets during shelf-life is usually between 5 and 15 per cent.

The choice of antioxidants depends on the formula. Ascorbic acid, sodium ascorbate and tocopherols contribute to the vitamin C and E potency of the product respectively. Ascorbyl palmitate, which is much higher in cost, has much lower biological activity than vitamin C, but in some cases figures importantly into the cost of the preparation because of its excellent stabilizing properties for vitamin A. Combinations of ascorbic acid compounds, tocopherol and propyl gallate are sometimes more effective in stabilizing vitamin A than larger amounts of these materials separately. Im-

*Paper presented before A. P. M. A., Western Division.

mediately, the cost of antioxidants, which may range between 2 and 5 cents per million units of vitamin A, may be of concern. However, the low cost of high potency synthetic A concentrates and better stability in presence of the antioxidants goes far in reducing overages of vitamin A to maintain label claims. At the same time, the finished product may be of better stability over an extended period. These points, already demonstrated in commercial processing and distribution, clearly indicate the use of synthetic palmitate in tablets to be practical and economical. Since very little oil or fat is introduced when using the synthetic concentrate, the coating of the dry dispersion with methyl cellulose mixtures, zein and similar compounds to prevent direct contact of vitamin A with the other vitamin entities or granulations thereof in the formula, does not present a difficult problem.

To lay out a general formula for processing multivitamin tablets containing the oil-soluble vitamins which would assure reasonable stability in the hands of different manufacturers would be impossible or would be taking quite a risk. Each manufacturer is responsible for the stability of his product as it is handled and is also responsible for the biological availability of the active ingredients. Proper tests must be conducted accordingly. Processing procedures on multivitamin tablets containing synthetic vitamin A in the hands of some manufacturers provide exceptionally high retention of vitamin A and very good stability during shelf-life, while other tablet manufacturers supposedly using the same suggested procedure lose practically all of the A potency by the time the initial assays are finished. This goes to show that if the pharmaceutical manufacturer is not properly set up for stability tests, aging tests and everything to go with it, including biological availability, it is much better to have the tablets manufactured by a concern having proper facilities.

Right at this point, it is also well to mention that simplified assays now available permit good control on pharmaceutical products containing vitamin A. Accelerated aging tests at 45° centigrade are quite indicative of stability of vitamin A during shelf-life. However, correlation fairly well established for one type of product does not always hold for others.

The use of synthetic vitamin A has taken the fishy burp out of multivitamin products. It has also taken the disagreeable odor from finished packages and bulk containers when one or more capsules or tablets break. This odor problem heretofore was indeed difficult, if not impossible to handle. Stability data clearly indicates good stability of the synthetic vitamin A when incorporated in the customary soft gelatin capsule formula. The stability of vitamin A in soft gelatin capsules is difficult to approach in other pharmaceutical preparations.

It has been our experience that vitamin A in the soft gelatin capsule is more stable than any pharmaceutical product we have ever investigated.

Both the palmitate and acetate exhibit a good stability pattern at a pH slightly above three and at the higher pH range which may be considered more favorable for pantothenate, panthenol and thiamine mononitrate stability.

Overages of vitamin A in gelatin capsules can be brought down to 10 to 15 per cent under carefully controlled conditions.

The selection of high purity and properly tested vitamin entities as well as proven processing methods are essential in manufacturing multivitamin or B-complex parenteral solutions. Considering the stability pattern of certain vitamins and the interaction between certain vitamins in solution, the process still presents a prolem for manufacturers having only limited control and applied research facilities available. Each entity involved in multivitamin parenteral preparations should be given consideration in respect to its properties and its behavior under certain conditions.

Thiamine hydrochloride stability in aqueous solution is dependent to a great extent on pH. It is most stable at about pH 3.0. Reasonably good stability can be expected up to pH 4.2 which is about the most practical for B-complex parenterals. Oxygen, heavy metals, calcium ions, constituents in rubber and breakdown products from preservatives and anesthetics cause precipitations with thiamine hydrochloride. Many experimental and production batches of parenteral thiamine hydrochloride solution were found to precipitate after slight exposure to rubber stoppers while no precipitation took place on long standing in glass-sealed ampules. Short exposure to rubber tubing

(Continued on page 403)

Cosmetic Development

IMPROVEMENTS in cosmetic products continue to be made principally as the result of the study of the methods by which cosmetics accomplish their functions. Once the method is determined, a search for the active ingredients necessary to accomplish the desired result is made. Sometimes the ingredients are available, and sometimes they have to be developed. However, the determination of the action desired in a cosmetic preparation, through which action the function sought for can be accomplished, is the most important factor in the development of an improved cosmetic.

It will be recalled that one of the first cosmetic preparations to be placed on a definite basis as the result of clear knowledge of the desired action and the search for ingredients to produce this action, was sun screen products to protect people from painful burning while exposed to the sun's rays. Here was presented the problem of screening out of the sun's rays those wavelengths which are responsible for producing burning, while, at the same time, not screening out those rays which produce a tanning effect. With this simple problem presented, various chemicals were used and, as time passed, newer chemicals which produced the desired effect more efficiently and with less undesirable reactions were discovered, so that today, these preparations are at the point at which very little further improvement is possible or desirable.

After many years of the marketing of deodorants, a new theory of the development of undesirable odors in perspiration finally was presented, and immediately the formulation of deodorants was placed on a new scientific basis. This theory was that the undesirable odors from perspiration resulted from the action of certain bacteria on the perspiration. The answer was to include in a deodorant an antiseptic or germicide which would kill these bacteria and thereby thwart them in their ability to make perspiration malodorant. This has been quite easily accomplished. The only improvements in deodorants now sought are better antiseptics for the purpose—although the ones now in use are quite satisfactory—or more desirable formulation of the creams or liquids into which these antiseptics are incorporated, and easier and more desirable methods of application.

Studies of the hair have been quite complete within recent years so that today, as the result of these studies, we have greatly improved preparations with which the average individual can do almost anything she desires with her hair. She can give herself a permanent wave at home, she can color it in any of many ways without having to spend large amounts of her time and money with a specialist, she can shampoo it herself and obtain results which were not at all possible until the quite recent years. All this has been accomplished by studies of the hair—its growth, its chemistry, and other phases, —and then a search for chemicals which would produce in the hair any of the desired results. There are no longer any secrets regarding the hair. Further improvement in hair preparations is quite probable, and research will continue if only for the reason that some of the formulations now being used are protected by

rather basic patents, as well as for the reason that some will hope to uncover still better formulations upon which patents can be obtained. After all, the object of the granting of patents is to stimulate improvements, and this purpose of the establishment of our patent office properly has many admirers and adherents in the cosmetic industry.

The field of dentifrices is a division of the cosmetic industry in which the final answer has yet to be obtained. And this group of products has been the object of by far the greatest amount of research conducted for any group of cosmetics. Furthermore, there has long been a therapeutic angle to the development of dentifrices which has caused them, in many instances, to become classified as drug products as well as cosmetics. And this therapeutic angle of dentifrices seems to be greatly coming to the fore as the result of the recent developments in this class of preparations. So long as a dentifrice claims nothing else than ability to whiten the teeth and sweeten the breath, it remains strictly a cosmetic. But once it claims ability to prevent tooth decay, undesirable conditions of the gums, and similar things, then it becomes a drug preparation as well as a cosmetic. And the ammoniated dentifrices, chlorophyll dentifrices, and penicillin dentifrices are most definitely in this class of preparations.

After all, the children of this country were brought up to believe that if they brushed their teeth regularly, they would have nice, pearly white, ever-lasting teeth. Then they proceeded to brush their teeth upon arising and before going to bed. It has since been definitely proven that the only time that brushing the teeth is in any way beneficial is after eating, and that the teeth should be thoroughly brushed after every time that a person eats. Therefore, the brushing of the teeth upon arising gives one a nice sensation but is quite futile as the teeth are probably not in need of brushing when one arises, while they are very much in need of brushing immediately after one has eaten breakfast.

Prior to the recent splurge of dentifrice manufacturers into ammoniated, chlorophyll, and penicillin dentifrices, practically all dentifrices on the market had dropped all reference to the prevention of any tooth or mouth disorders and had based the claims in their labeling solely on the cosmetic effect of these preparations. Thus the products offered were said to clean the teeth and whiten them well and safely. Also an improvement in breath odor was claimed. This development was principally the result of the enactment of the Federal Food, Drug, and Cosmetic Act in 1938, which was the first law to set up definite restrictions for cosmetics.

The ammoniated dentifrices are, for the most part, still based on theories which have not been fully proven. Furthermore there are two different schools of thought on the formulation of these dentifrices, one containing a much higher concentration of urea than the other. Thus far the producers of ammoniated dentifrices have had claims which are based more upon unproven theories than anything else, although some tests have been reported which showed a rather slight advantage in their favor.

The therapeutic turn taken by dentifrices may or may not affect the dentifrice business to any noticeable degree, but it appears certain that a serious attempt is to be made by large companies, through heavy advertising appropriations, to weight the market heavily in favor of this type of product. But even so, a real basic method by which the health of the mouth and the teeth can be maintained by prophylactic treatment implemented by a dentifrice, has yet to be discovered and/or proven. Many more clinical trials will be run, many more formulations will be evolved, many more ingredients will be developed, and much more money will be spent both in research, development and marketing before anything resembling a clear-cut answer to the dentifrice problem will be found.

Quite naturally, one of the subjects under intensive study for many long years is that of the skin, for the obvious reason that the face was just about the first part of the body to which cosmetics were applied by the average woman, and also for the reason that powders, rouges, creams, and various other items for cosmetic treatment of the face, hands, and other parts of the body, constitute the largest group of cosmetic preparations from the sales angle. Quite complete understanding of the functioning of the skin has been available for a relatively long time, and therefore, the search for improvement in products for application to the skin constitutes discovery and development of new ingredients and new formulations. Every so often a completely new approach is made in the formulation of products of this type, the outstanding ones in recent years being cake make-up and the hormone creams. Many developments in this division of the cosmetic industry never amounted to more than a flash in the pan, a notable one being creams containing vitamins.

Other parts of the body to which cosmetics are applied have been studied with equal intensity, but in some instances these studies have not as yet resulted in any dramatic changes in the formulation of the products marketed for these particular uses. However, it is more than likely that these studies have prevented the development and marketing of preparations which would have been quite complete failures, or worse than that, of such a nature than they would have been of the type that would have been a disgrace to the industry. The development of nail lacquers over the past years has been one principally of formulation. Here the attempt has been made to develop basic formulas which produce lacquers which are easily and smoothly applied, which are long lasting under all sorts of conditions of climate, activity, bodily condition, and other factors which have, in the past, affected the lasting qualities of nail lacquers. Beyond this, the accent in the formulation of nail lacquers has been principally on color, as this has proved one of the greatest factors in sales promotions for products in this class.

by Irwin Berch
CHIEF INSPECTOR OF LOS ANGELES DISTRICT
U. S. FOOD AND DRUG ADMINISTRATION

Factory Inspections

MUCH has been written in recent years concerning the need for instituting and carrying out a rigid system of controls in the manufacture of pharmaceuticals and related products. In addition to this published material, I am sure that responsible plant officials from each of the firms which you represent have had occasion to discuss the complexities of control systems with inspectors from this Administration during the course of their routine visits to your establishments. That increased attention to a well integrated program of manufacturing and laboratory controls has inevitably resulted in improvement of the standards of American drug products is amply borne out by the statistics in recent years. One means of studying the effectiveness of this improvement is to review the number of times that lots of dangerous drugs have been detected on the market, and subsequently have been recalled to protect the public interest. During the post-war years the number of major drug recalls gradually increased until a maximum of 33 was reached during 1949. In that year it became necessary on seven different occasions to issue press and radio warnings to alert the public to the possible danger in using the products involved. Statistics recently released for 1950 reveal that the number of major recalls dropped to 17, and only once during the year was it necessary for the Administration to warn the public through the press and radio that a dangerous drug was

on the market. This continual progress unquestionably reflects increased attention to effective controls on the part of the drug industry—attention which we hope will continue to reduce, year by year, the necessity for removing from the channels of trade stocks of drug products which are dangerous for use.

Before continuing, let us examine what is meant by the term "controls." Of the many definitions that might be applied, I prefer the following: Effective controls constitute the sum total of every step that must be taken in the manufacture and marketing of a drug product which will insure that each therapeutic dose has the composition, purity, and physiological activity represented or implied by its labeling. This includes not only such generally recognized controls as are customarily extended over raw materials, manufacturing processes, packaging, labeling, and laboratory testing, but also over the distribution and ultimate use of the product. Attention must also be given to deterioration factors which affect the normal shelf life of the product, together with some consideration of the problems inherent in the use of multiple-dose containers. This concept of controls embodies the fulfillment of the manufacturer's promise to physician and patient alike that the drug in question can be employed with confidence not only when first taken but with each succeeding dose. In the brief time allotted me it is not possible to discuss the technical aspects of this topic, but perhaps by use of a few examples I can point out some of the safeguards which have proved of value to many manufacturers.

Most firms have learned by experience that the control department plays an essential and indispensable role, and deserves to be staffed with personnel having extensive training and education. Experience has shown that wherever possible direction of the control department should be centralized in one well-trained individual who is responsible only to the top management of the firm. This individual should of course have a well-rounded scientific background to enable him to direct the activities of the control laboratory in the physical, chemical, bacteriological, and biological tests that must be performed. In addition, he should be conversant with every step involved in the preparation of each product manufactured from receipt of the raw materials to shipment of the labeled container. He must understand the therapeutic action of the drugs manufactured and should have arrangements for obtaining medical advice whenever special problems arise. It is imperative that he thoroughly familiarize himself with the actual working conditions of all employees whose activities have a bearing on the finished product.

The relationship between the control department and other important departments should be clearly defined by management, so as to provide proper teamwork in the handling of the firm's everyday problem. For example, the sales department certainly has a legitimate interest in all returned goods, but its activities should not stand in the way of immediate review of complaints by the control department. During a recent inspection of the plant of a manufacturer of injectables we learned that the firm had had returned to it the remainder of a particular batch with the comment that several doctors using the product had complained of patients' severe reactions at the site of injection. The sales department concluded that it was merely a matter of sterility, and sent the returned vials to the production manager with instructions to irradiate the product under a Sterilamp, rebottle it and ship it out. No attempt was made to determine the true cause of the complaint or to test the finished rebottled goods. We urge that complaints be not ignored, no matter how trivial they may seem, and that they be properly investigated.

Sometimes, even with exercise of the utmost diligence on the part of the manufacturer, it becomes necessary to recall from the channels of trade a particular product or one or more batches of the product. Here advance planning by the control department is put to the test. Can the firm itself trace all outstanding stocks without delay and take the action necessary to have it immediately withheld from sale? Is the product so dangerous that doctors, hospitals, and individuals need be warned lest the product already in their possession be used with irreparable damage to the patient? Should these unforeseen emergencies arise we feel justified in asking that the firm take the Food and Drug Administration into its confidence. Generally, it has been the first time the firm has been faced with a problem of this magnitude, and we often are in a position to render assistance by making suggestions based on our experience. Only when other methods are insufficient do we recommend press publicity. These instances are fortunately few in number. As was pointed out earlier, during 1950 it was necessary only once to issue warnings through the press and radio. The product involved consisted of tablets for internal consumption which contained an excess of boric acid. The manufacturer could not account for the distribution of 18,000 of these tablets and the only method of protecting consumers was to issue an immediate public warning. This represents a marked improvement over the seven public warnings which were found necessary in 1949, and supports our recommendation that firms exercise control over distribution records.

It can readily be appreciated, therefore, that one of the first things that inspectors from this Administration do in visiting your plants is to determine the qualifications of your control officials and learn what procedures they have set up for the orderly handling of the wide variety of your control problems. Before visiting your plant the inspector has familiarized himself with lists of the products which you manufacture and has prepared himself to discuss with you as best he can the problems that relate to the particular drugs which you produce. During many of our inspections we have been able, even in the relatively short time we have

(*Continued on page 406*)

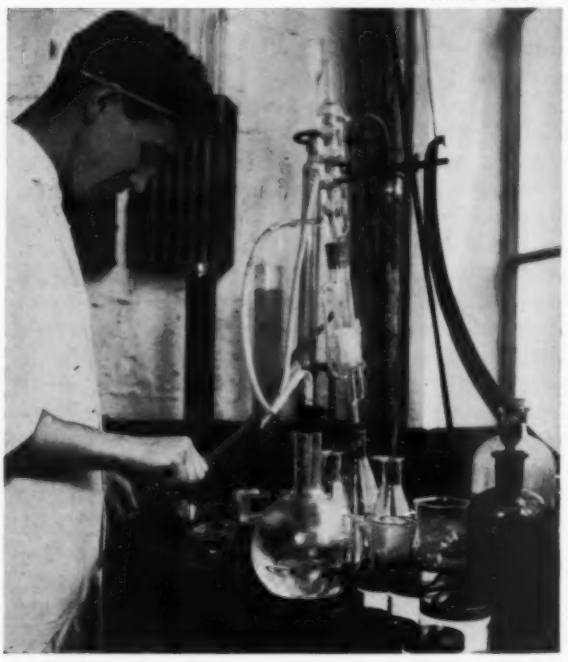
THE UPJOHN CO.

Pharmaceutical Research

EVEN within this industry, appreciation of the methods by which the pharmaceutical manufacturers accomplished their great expansion of recent years, is woefully lacking. How a manufacturer can market a product sold only on prescription and, within a few years, attain a volume of $100 million dollars in this one item alone, is something that a surprisingly large number of people associated with the industry do not seem to be able to comprehend. Generally the people lacking such appreciation are not in any way associated with the pharmaceutical houses which are making these rapid strides. Rather are they associated with proprietary houses, cosmetic house or with other enterprises quite remote from the pharmaceutical companies which are devoting much time and money to the discovery of entirely new products with which to combat disease.

Within the recent years during which this expansion has, in the main, taken place, the products responsible for this development are not of one type, nor do these products attack only one sort of disease. The products vary from antibiotics, hormones, antihistaminics, and vitamins to other groups completely unrelated. And the diseases which have been successfully attacked range from venereal diseases, meningitis, pneumonia, tuberculosis, spotted fever, and a long list of other infectious diseases, through arthritis and rheumatism, rheumatic fever, eye conditions, and various ailments generally peculiar to old age, hay fever, and innumerable conditions resulting from allergies, through practically the whole gamut of nutritionable diseases. This development has not been a situation brought about by one or more lucky accidents, but it has been a

EWING GALLOWAY



highly organized, highly expensive, long time project which, quite naturally in many cases, includes a share of luck. And as time goes on and results are accomplished, the search for still more new products becomes still more expensive, and it is quite possible that with some companies who are not lucky enough to come up with anything particularly efficacious which they are able to have to themselves for a fair amount of time, this undertaking might easily reach the point of diminishing returns.

Those who do not realize how this work is conducted and the many different lines of research which enter into the development of a single really new product, have no conception of the enormous amount of money which is invested in these cases on a pure gamble. The first step involved in the discovery of a new drug is the isolation from available known sources of sufficient quantities of the product to enable the discoverer to determine whether or not the product has a chance of being useful. Then studies must be made of methods of producing this product in sufficient quantity to meet an estimated potential demand. This production study must involve possible synthesis from raw materials which are sufficiently abundant, and which can be obtained at relatively low cost. And a study must also be made to determine the ultimate cost of the finished product, which cost must be low enough so that those needing the product will be able to obtain it. But there must also be clinical trials carried on during this period, and at the same time the Food and Drug Administration must come into the picture because of its control over new drugs.

Therefore, practically all the departments of the pharmaceutical manufacturing company become involved in the product shortly after it is conceived. As soon as the product is isolated and gives some indication of usefulness in work with animals, the various departments of the manufacturer—other than straight research—start working on the product. The legal department takes care of the necessary contacts with the Food and Drug Administration as well as attending to patent and trade-mark matters. The production department as well as the engineering department become immediately concerned with projected production of the product. The purchasing department becomes concerned with research into supplies of raw materials which might eventually be needed. The medical department becomes concerned with the clinical trials and investigations conducted by outstanding specialists throughout the country, as well as with plans for eventual detailing of the product. The sales department enters the picture from the angle of the possible market price levels which should be established, and the type of distribution which should be set up for the particular product.

But before many of these departments of the company enter the picture, the research workers in chemistry, biochemistry, engineering, pharmacology, and many other phases of isolation, production, and application of the product must have covered a tremendous amount of ground. Also sufficient clinical work must be accomplished to be sure that the product has real promise, although the entire scope of the product will not be revealed until much later.

The risks involved are very great. A research

(Continued on page 411)

EWING GALLOWAY

SARRA, INC.

Is there . . . . . an idea for you in the ONE that caught your eye?

Think of bottles—your bottles—capped in attractive color! Pharmacists, wholesalers, retailers, and manufacturers find the use of distinctive color invaluable in identifying and impressing their products on the public mind. Wholesalers find drugs and cosmetics in bottles capped with color easier to sell—because retailers know the eye appeal of color as a merchandising force of significant value.

Take a fresh look at closures of Plaskon Molded Color! Leaders in the drug, cosmetic and pharmaceutical fields are featuring them in a wide range of colors and a broad selection of styles. These modern closures attract the eye with *practical* colors—colors that are solid, permanent, chip-proof. And the plastic is resistant to solvents, greases, oils, dilute acids and alkalies—with a non-porous finish that is smooth and friendly to the touch. If you wish, you can even have an exclusive shape in your caps—thanks to the moldability of Plaskon Molded Color. Contact your supplier now for all of the facts!

Your package can help sell your product . . . cap it with

PLASKON DIVISION • LIBBEY • OWENS • FORD GLASS COMPANY
2110 Sylvan Avenue • Toledo 6, Ohio
In Canada: Canadian Industries, Ltd., Montreal, P. Q.
Branch Offices: Boston, Chicago, New York, Los Angeles, Rochester
Manufacturers of Molding Compounds, Resin Glues, Coating Resins

PLASKON®
MOLDED COLOR

Packaging and Selling

PLOUGH!

Plough, Inc. is a company that nearly everyone has heard about, but hardly anyone knows very much about it. And yet Plough has rapidly been forging itself into a southern institution, until its ways of doing business are the wonder of those who have had an opportunity to observe some of its operations.

Abe Plough, who has acquired quite a reputation among those who know him of being able to do sixteen or more things at once, has just built himself a beautiful new plant which is the pride of Memphis and where manufacturing operations, formerly scattered in eight different places are now consolidated. In addition, this new building houses all administration and office work and includes a printing plant which would make many fairly big sized publishers' eyes bulge.

As a great many people in the trade know, Plough has grown up largely in small towns and rural districts. At the present time this company has about 68,000 direct retail accounts on its books and about 7,600 wholesale accounts.

Plough's way of doing business has been a mystery to the rest of the trade, and to many a conviction that it was a sure path to bankruptcy. Yet Plough has operated for over 40 years with a credit policy that would shiver the shoes off almost any normal credit manager. Plough operates on the theory that everybody is honest until proved otherwise. They will, for instance, ship anybody at all a $36 order and give this buyer from 3 to 9 months' time to pay the bill. Of course, if this bill isn't paid, for items which sell and net an excellent profit, that particular person doesn't get any more Plough goods.

Abe Plough is a great believer in advertising. Plough advertising money finds its way into some of the traditional media, that is newspapers, where a lot of the money goes; some of it radio, which is growing, and a great deal of it in a wide variety of mail, display matter, premiums and other forms of publicity. It is reported that about $2 million is being spent this year on direct media advertising with another half million dollars being spent in indirect ways.

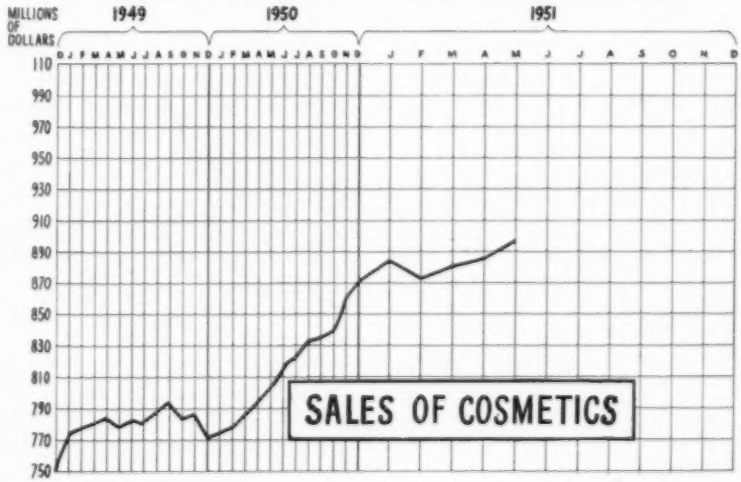
As for indirect advertising, Plough has been selling clocks for some years. The electric wall clock which prominently features St. Joseph Aspirin sells for $20 and carries with it merchandise that sells at retail for that same amount. At least one-third of the druggists buy from Plough a calendar which has their own name imprinted on it, at a cost price of $25 per hundred. The retailer who buys 100 calendars at $25 with his own name imprinted on it gets without extra charge $25 worth of Plough's merchandise, at the retail price.

Plough, Inc. has four principal subsidiaries, i.e., the Pantaze Drug Chain in Memphis, the Radio Station WMPS, Consolidated distributors, a very large liquor distributor, and International Distributors, which sell a line of drug sundries to wholesalers.

Although Plough's business has been traditionally in small cities, Plough came into New York City with St. Joseph Aspirin for children, an orange flavored product which contains one-fourth the normal aspirin dose, and pretty thoroughly cleared up the childrens' market for this product in New York City. Trade reports still show that St. Joseph is selling far more aspirin for children in New York City than all the rest of the 25 or so competing products.

Plough, Inc. is a publicly owned company with its stock listed on the New York stock exchange. Earnings during 1950 were $1,291,000 compared with 1949 earnings of $777,000 before taxes. After taxes 1950 earnings came to $727,000. Reports say that sales so far this year are running at a substantial increase equal to $18,000,000 for the year.

Retail sales of cosmetics for the twelve months ended with May 1951 totaled $893,526,000. This compares with $885,808,000 for the twelve months ended with April 1951 and with $801,611,000 for the twelve months ended with May 1950.



Handbook of Consumer Terms

In 1939 John C. Williams, President of L. Bamberger & Co., originated the idea of forming a Customer Advisory Committee whose over-all aim it would be to improve relations between customers and stores. Mr. Williams realized that the purchasing problem of the customer as well as the complexities involved in running a department store were increasing by leaps and bounds.

It was hoped that this advisory committee would be able to provide the store with more expert knowledge in knowing what its customers wanted and expected in the way of merchandise and service.

This Customer Advisory Committee is composed of representatives from fourteen New Jersey State women's clubs and has its office in the Bamberger store.

This Committee has just compiled and published a 92-page booklet, the first of its kind ever to be produced, which defines clearly all of the terms commonly used in advertising and in store operation and every term or word that the customer may expect to meet in the routine of shopping.

This booklet, which may be of equal value to many people doing business with department stores, can be obtained for 35 cents a copy from Mrs. Kenneth V. C. Wallace, Executive Secretary of the Customer Advisory Committee, L. Bamberger & Co., Newark, New Jersey.

New Help for the Druggist

The Chicago Druggists who belong to the Chicago Retail Druggists Association appeared to be among the first independent druggists to recognize that something can be done against the increasingly tense competition from drug chains and particularly from grocery supermarkets. Even more important, these members of the CRDA have found a way to do something about it.

One of the serious handicaps of almost all independent druggists has been their inability to properly use some form of advertising, particularly newspaper advertising as advantageously as the big stores and especially the chains. Each of these independent drug stores, are in most cases limited to some one section of the city, so that the more powerful mediums for business promotion would have to be used on the basis of an extravagant waste of the large part of the circulation.

These druggists in Chicago are now using horizontal operative advertising, a term which may very likely become a familiar and respected word in advertising.

Early in 1950 J. M. Coates of the CRDA began contacting member stores personally and by mail. He warned these druggists of increasing losses to food store competition and analyzed the growth of this competition nationally and in various sections of the country. Next he presented the idea of successfully meeting this competition by use of large-space newspaper ads to drive across a two-fold story to consumers. This story included the thought that the neighborhood drug store is the best place to secure drug needs in individual neighborhoods and also that drug items advertised at low prices by chain stores and supermarkets were available at identical prices in all CRD stores.

Especially prepared CRD "pledge cards" were used to secure the agreement of all members to use the cooperative advertising allowances granted to each store by manufacturers.

A large part of the advertising allowance granted by manufacturers had never been used by a majority of CRDA members. This allowance amounted to a considerable sum when lumped together from 2,200 stores. In fact, when the pledge cards were all collected by March 1951, the Association found that it could contract for a full page advertisement to appear once a week for 13 weeks.

According to John M. Myers, Executive Secretary and Business Manager of CRD: "Each ad featured merchandise that was nationally advertised, that had a maximum distribution in our stores and which was competitive with similar merchandise advertised by drug chains and supermarkets. Individual CRDA stores tied in by window displays, tear sheets of the advertising and other in-store aids.

There is very clearly a growing sense of emergency among independent retailers and particularly among independent retail druggists to close their ranks and to operate in certain ways as a united front to meet this new era of competition. It is certain that we have arrived at the day when the independent druggist, operating as a rugged individualist, will find himself cut off from some of the powerful sales producing instruments that are the chief weapons of his new competitors. United in the way these Chicago retailers are operating, the independent druggist can retain all of his individuality and at the same time participate in promotions and in sales producing campaigns and in institutional advertising with the same effectiveness that has heretofore been the sole privilege of the powerful chains, i.e., the drug chains, supermarket chains and the variety store chains.

The reception accorded to the McKesson and Robbins national cosmetic campaign for druggists in Life, the new plan for drug store tie-ins just announced by Cosmopolitan Magazine and now this new local, horizontal cooperative advertising campaign in the Chicago Tribune by the members of the CRD show that powerful forces are organizing to aid the independent druggist and that a new conception of advertising is emerging which will give the independent equal status in sales promotion with the powerful national and sectional retail combinations.

The Bureau of Advertising of the ANTA Inc., Retail Division, 570 Lexington Avenue, New York City 22, has, we understand, compiled a complete story of the organization and working methods of the CRDA plan for horizontal cooperative advertising.

Now It's Ice

It is almost universally agreed that just about the most important element in store display is action. This summer many leading department stores around the country are discovering that a form of reverse action can be a tremendous sales builder.

During the month of May most leading perfume manufacturers were startled to receive a succession of letters from leading department stores around the country asking these manufacturers if they were willing to join a cooperative ice campaign. Further reading of this startling letter showed the department stores planned to have several large cakes of dry ice placed at intervals on their counter throughout the summer featuring cologne and perfume sticks. Manufacturers were told that their share of the summer ice display would run from $60 to $80. Quite a lot of perfume manufacturers are now in the ice business.

Indelible Lipsticks

The indelible lipstick is here with a bang, although recent consumer panel reports do not make it look as hot as manufacturers' sales would seem to indicate. For instance, in the recent survey of the Woman's Home Companion, cited in the last issue, only 14 per cent have so far used the indelible and there are many reports around the trade, eminating from retail stores, of specific dissatisfaction with this type of lipstick; at least the sticks that are now on the market.

Rubinstein has had their Stay-Long indelible lipstick on the market now for a few months and claims a sensational success, measured by a reported shipment of around 5 million lipsticks

The Empress closure and smart label combination make Duraglas stock-mold bottle A-6839 a highly individualized sales package.

MAKE-UP makes the difference!

Highlight your product with package individuality

When you give your line a family look in a package personalized for your product, you help it gain consumer attention at the point of sale. You can do it, and still keep within commercial limits on container costs. How?—Pack in Duraglas stock-mold containers.

Owens-Illinois has more than 1400 different sizes and styles from which you can select one that is exactly right for your product. Then, skilled packaging designers at the Duraglas Center turn it into an effective salesman through an unusual label and closure combination.

Even in unusual times, there is wide latitude in the individuality and ingenuity you can give your product.

And, remember, no matter what market conditions may be, it doesn't pay to let your package get out of the *habit* of selling.

Duraglas bottles are protectors of quality

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

"Look... *a Perfect Closure* for Every One of My Products!"

Yes, only *MeritSEAL* offers such a wide selection of sizes, colors and liner materials to suit every need...

● Cosmetic manufacturers from coast to coast acclaim MeritSEAL for the luxurious, sparkling finish it gives to their products. Attractive, efficient MeritSEAL caps really help *sell* your cosmetics for you. Hard scratch-resistant coating comes in glistening, jewel-tone colors—handsomely lacquered or lithographed to suit your exact requirements. Exclusive, patented thread spins cap on easily, forms a perfect-fitting seal. Send for full information and samples today . . . no obligation. Simply state your color preference and sizes needed for your products.

CROWN *MeritSEAL*—

CROWN CORK SPECIALTY CORP.

Division of Crown Cork and Seal Co., St. Louis 15, Mo.

Main Office: St. Louis, Mo. • Chicago: 401 Ontario St. • New York: 40 East Forty-Second St.

Western Representative: Western Crown Cork & Seal Corp., San Francisco . . . Los Angeles

for one month, following their all-out newspaper drive.

Now Revelon is introducing an Indelible-Creme lipstick with an advertising wallop of $500,000 to be spent in the first 90 days. This additional advertising money for the new lipstick will push Revlon expenditures to over $2 million for 1951.

Revlon is admitting in their advertising copy that they are a late-comer on the indelible market. Advertisements state: "We honestly think you won't mind having waited."

Revlon sales were reported to be $22 million for 1950. Sales are said to be running about 15 per cent ahead this year.

Meeting Competition

The Government is still debating the issue as to whether a company has the legal right to meet competition in good faith or whether it should supinely go out of business under the onslaught of competition, in deference to a Government bureau's interpretation of restraint of trade.

This issue of whether a company has a right to fight for survival started with the FTC complaint against the Standard Oil of Indiana. FTC claimed that Standard was selling to one dealer at a lower price than to other dealers. This case was finally carried all the way to the Supreme Court, which finally stated that a business man may charge different customers different prices for a similar product if he is forced to do it to meet competition.

The Senate has just approved a bill which insures a seller's right to charge different prices to different customers for the same product if he does it "in good faith" to meet competition. This bill says: "It shall be a complete defense to a charge of discrimination in price or services or facilities furnished, for the seller to show that his differential in price, or his furnishing of greater service or facilities, was made in good faith to meet the equally low price of, or the equally extensive services or facilities furnished by, a competitor."

The "good faith" defense would be denied, however, if the seller "knew or should have known that the lower price or more extensive services or facilities which he meets were in fact unlawful."

This bill is now expected to go to the House where it is expected to have a pretty rough road to hoe because similar bills are still stagnating in committee.

From a hasty review of the testimony it doesn't appear that any of the numerous legislators, who are opposing any bill that would enable a legitimately run business to survive against competition of this sort, had any constructive suggestions to make as to how a business could meet a situation of this sort.

Volume Gifts

Colgate has a new package designed to trade up to the dollar price for Palmolive After Shave Lotion. This delux bottle has Ceramic-like lettering fired on the glass, a handsome lettered gift tag suspended from the gold bottle cap by a cord, and each bottle is packaged in a green and gold carton.

Although a certain part of the cosmetic industry gets its rich rewards in the gift-buying Christmas season and, in fact a substantial part of the industry do as much as 60 per cent of its business during these few months preceding Christmas, the lower-priced cosmetic lines in mass distribution have rarely participated in this extra business to any noticeable extent.

This is not the first time that a popular volume cosmetic line has tried to crash the gift market. It will be interesting to see if this gift package, for a product that has won a utility position, will win any kind of Christmas recognition.

Something New

Something new is always happening in the cosmetic business. That is one of the reasons why this industry holds such a fascination for so many people.

The newest thing that we've heard of recently is a brand new kind of package for a brand new kind of product. The product is an enzyme cream. Don't ask us why an enzyme will have a cosmetic effect on the skin, because we don't know. At least the idea is new enough to us to do some investigating and certainly there are enough different kinds of enzymes to open up some interesting possibilities.

There are two packages which are really honeys. One for the cream and the other for the skin lotion. Each of these packages are divided into two compartments, one of which contains the enzyme and the other which is labeled "Essential Compounds For Your Skin." It appears that the enzyme can not be mixed with the substances in the other part of the container until the moment of application. The user is warned not to dip the same fingers back into the jar because when the enzymes are mixed with the cream, the ingredients are changed by enzymatic action to tiny microscopic particles so small that they can be easily absorbed.

The really beautiful container is a plastic bottle which contains the lotion. This is also a divided container with two small calibrated openings in the top of the divided bottle so that the lotion can be dispensed and mixed at the time of application.

The Huenelator Corporation of Beverly Hills, California are putting these products on the market.

Industry Newspaper Advertising

This industry didn't shape up too well in competing for place in newspaper advertising during 1950. Among the 100 leading national newspaper advertisers for this year, the record is as follows, according to the place taken by the company in national expenditures:

Procter & Gamble, 4th
Lever Bros. Co., 5th
Colgate-Palmolive-Peet Co., 6th
American Home Products Corp., 19th
LeBlanc Corp., 33rd
Sterling Drug Co., 34th
Bristol-Myers Co., 39th
Block Drug Co., 82nd
Johnson & Johnson, 77th
Manhattan Soap Co., 85th
Plough Inc., 89th
Jergens, Andrew, Co., 91st
Leeming, Thomas & Co., 93rd
Ponds Extract Co., 97th
Lady Esther Ltd., 100th

It is probable that Helena Rubinstein, Inc. will qualify in the 1951 finals because 75 per cent of the advertising budget of approximately $1 million of this company is going into newspapers.

This newspaper campaign which includes a continuous schedule in 60 cities is the basis for the introduction of quite a number of new products and a very aggressive local promotion is reported to be boosting Rubinstein's sales in excess of 25 per cent over last year.

Classic Beauty... Modern Designs
FOSTER • FORBES
Bottles for Drugs and Cosmetics
FOSTER-FORBES GLASS COMPANY, MARION, INDIANA, U.S.A.
SALES OFFICES: ST. LOUIS • NEW YORK • CINCINNATI • DETROIT • CHICAGO • ST. PAUL
CLEVELAND • MILWAUKEE • KANSAS CITY • MEMPHIS • LOUISVILLE • HAVANA, CUBA

Rush Time for Packages

Makers of packaging materials had a booming business in the first quarter of this year. The production and shipment of these various kinds of packaging materials give a very vivid picture of the frantic way in which manufacturers were buying and the ability of the packaging material companies to meet this emergency.

According to Department of Commerce figures, here is what took place during the first quarter of this year:

Metal Caps (Screw, thread and lug types): Production increased 51.6 per cent and shipments increased 52.2 per cent. In terms of closures, this amounted to a production of 2,620,312 thousands of caps and shipments of 2,474,514 thousands.

Plastic Caps (Excluding caps for collapsible tubes): Production here increased 38.5 per cent and shipments 41.7 per cent. This meant that production of plastic caps during this first quarter was 749,099 thousands and shipments 748,489 thousands.

Metal Cans. Non-food can total shipments were 23.5 per cent over the first quarter of last year. The classification "All Other Non-Food Cans," and eliminating oil, beer and pet foods and comes nearest to the classification in our trade, shipments increased 32.6 per cent.

Collapsible Tubes. The first quarter shipment of collapsible tubes reached boom proportions, states the Department of Commerce. Many manufacturers worked two shifts to fill the demand. Inventory build-up by retailers and wholesalers is stated to be primarily responsible for this increased demand.

Total shipment of 2,070,706 gross was up 31.6 per cent over the first quarter of 1950, with tubes for shaving creams increasing a significant 51.2 per cent. A gain of 53.8 per cent was registered for cosmetics while tubes for dentifrice and food products declined 8.9 per cent and 14.5 per cent, respectively. This meant that during the first quarter collapsible tubes for medicines and pharmaceuticals shipped was 369,-251 gross, for cosmetics 184,393 gross, for shaving preparations 284,048 gross, for dentifrice 926,118 gross.

According to these figures the destiny of the collapsible tube rests heavily on the welfare of the drug and cosmetic industry. For instance, other uses, i.e., food products accounts for only 3,558 gross and household and industrial uses 303,338 gross during this quarter.

Corrugated and Solid Fiber Shipping Boxes. The first quarter production of corrugated material, container chip and filler board liners increased 30.5 per cent, 34.4 per cent and 27.8 per cent, respectively.

Folding Paper Boxes. The first quarter of 1951 broke all previous folding box industry records for shipments billed, both on a dollar and tonnage basis. Dollar-wise, January was 164.1 per cent and February 167.7 per cent over the like months of 1950. March shipments were 12 per cent higher than February shipments.

Set- Up Boxes. The increase in the production of set-up box board amounted to 18.5 per cent for the first three months over the similar quarter period of last year.

Glass Containers. This industry operated at very high capacity during this period. Shipments increased 27.2 per cent with increases realized in all types of containers with the exception of wine. Total shipments of narrow-neck bottles increased 36.6 per cent with the wide-mouth increasing 12.9 per cent.

Department of Commerce Monthly Retail Trade Report

Retail sales of all kinds in drug and department stores showing sales for the month of June 1951 as compared with the same period in 1950.

	Department Stores	*Drug Stores*		*Department Stores*	*Drug Stores*
Atlanta	+1	+6	Minneapolis	-1	+10
Baltimore	+1	+7	Milwaukee	+2	+11
Birmingham	-1	+5	Newark	+11	X
Boston	-2	-8	New York	+14	+2
Chicago	-1	+9	Philadelphia	-1	+10
Cincinnati	+4	+11	Pittsburgh	0	+5
Cleveland	+5	+9	Providence	-4	+2
Dallas	-3	-7	St. Louis	-3	X
Detroit	+3	+9	San Francisco	+4	+16
Los Angeles	+2	+1	Seattle	+6	+9

Sun Screens

One of the seasonal products of the cosmetic business that has not justified the high hopes we once had for it, but which still turns in a nice revenue, is the sun screens.

The cosmetic industry was the early pioneer in making use of these new chemical products but so far as we know, no cosmetic manufacturer ever tried to diversify his business by developing sun screen products outside this particular industry.

We now hear that a product of this kind is on the market to be applied to store windows as a spray. This product is said to prevent merchandise in the window from fading and to be effective for three months afer application. There ought to be other markets for these products because the bleaching, fading, burning effect of the sun is not confined to the human skin.

9 out of 10

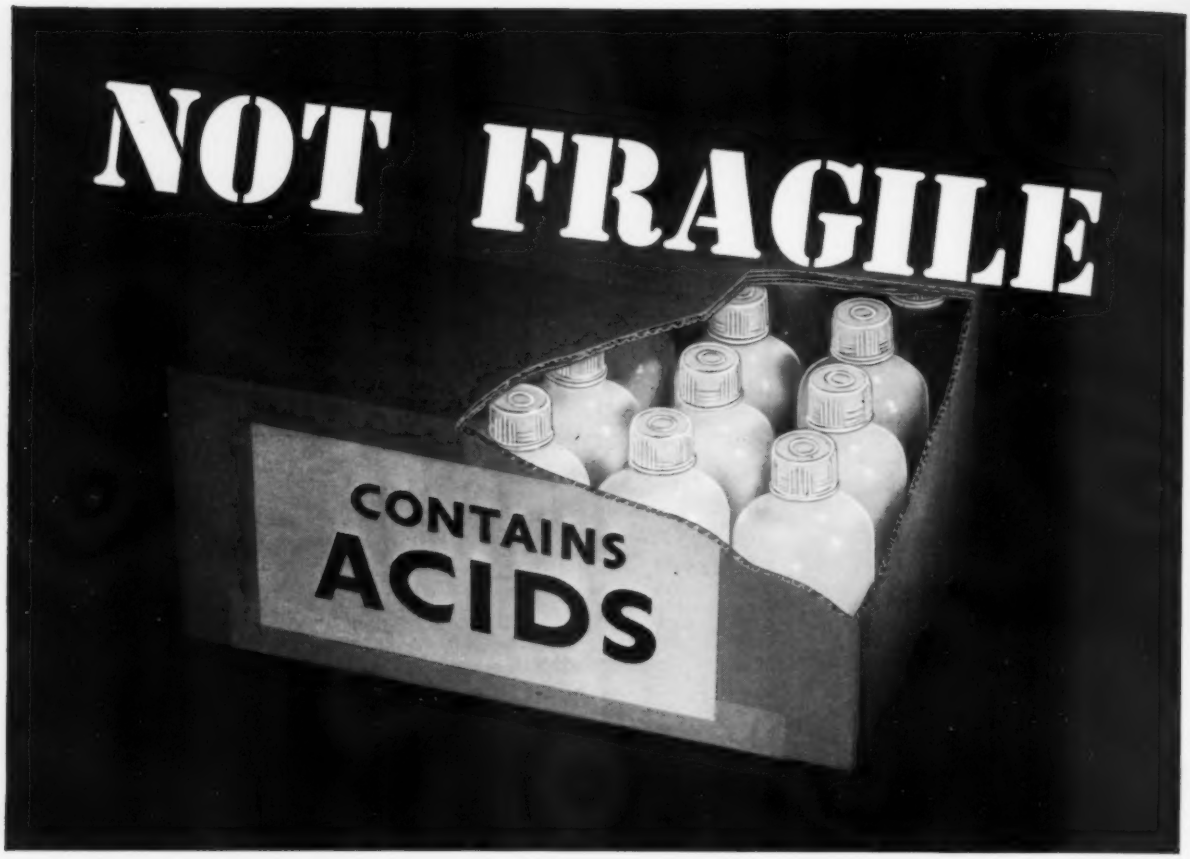
The Supermarket Institute is composed of 4,200 supermarkets doing better than two and a half million dollars a year and including all except the five biggest grocery chains. These folks define a supermarket as a completely departmentalized food store with at least the gorcery department fully self-service and with a minimum sales volume of $500,000 a year. Average sales of their members last year was $900,000.

These folks report in a survey that beauty and health ads are now handled by 9 out of 10 marts.

Public Relations

Dow Chemical is another company which feels that media representatives should have a chance for an interview, following the time consuming job of getting to the company offices. In a pleasant and interesting booklet entitled "The Media Representatives Interview Guide" Dow tells these folks just how they can make best use of their time in a mutually profitable way. Included are a welcoming message, a brief description of the company, its products and markets, its basic sales methods and types of advertising.

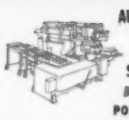
Advertising department personnel are listed next according to job responsibility and finally information is provided regarding local hotels, transportation, etc. We have always thought and have many times seen it proved in personal experience, that considerate courtesy of this kind extended to various sales representatives, is a valuable part of a company's public relations policy.



For Packaging Acids so that they can be shipped, stored and handled without fear of breakage, on the ground or in the air. Need to get a highly corrosive or expensive chemical somewhere in a hurry? The Plaxpak bottle is the answer. Take it high in the sky. Unequal pressures will cause it to flex, but not break or pop its closure. Drop it on the ground. It will bounce, but not break. Shipping weights are drastically reduced. When compared empty, the Plaxpak bottle is one-fifth the weight of glass; when filled, one-half the weight.

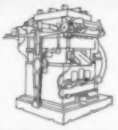
Only the best is

OTHER EMHART PRODUCTS INCLUDE:



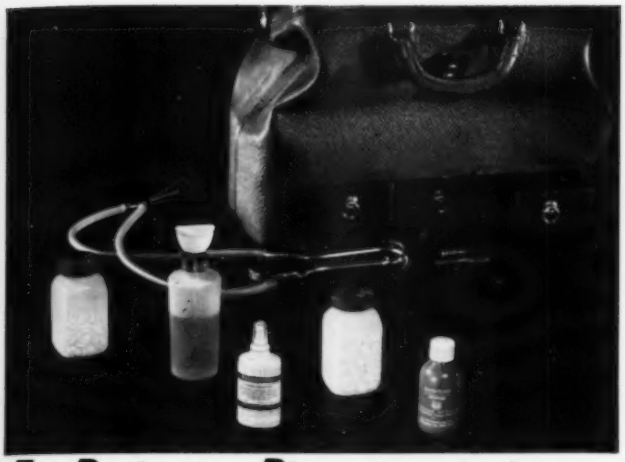
AUTOMATIC PACKAGING EQUIPMENT
STANDARD-KNAPP
Division of Emhart Mfg. Co.
PORTLAND, CONNECTICUT

GLASS MAKING MACHINES
HARTFORD-EMPIRE CO.
Division of Emhart Mfg. Co.
HARTFORD 2, CONNECTICUT



HIGH SPEED AUTOMATIC PRESSES
HENRY & WRIGHT
Division of Emhart Mfg. Co.
HARTFORD 5, CONNECTICUT

PREMIUM QUALITY STAMPING PRESSES
THE V & O PRESS CO.
Division of Emhart Mfg. Co.
HUDSON, NEW YORK



For Packaging Pharmaceuticals in liquid or powder form, the Plaxpak bottle offers the triple advantages of unbreakability, lightweight and, where desired, controlled dispensing as a spray, stream or droplet. Shown above are some stock bottles for medicinal use.

For Laboratory Research the Plaxpak bottle provides the convenience of an unbreakable, chemically inert container, and the added advantage of controlled dispensing. The stream dispensing fitment shown above was developed by S. H. Ansell & Sons, Boston, Mass.

For Boosting Turpentine Production the Plaxpak bottle has proven an invaluable aid. It is used as a container for sulfuric acid, which is squirted into "wounds" in the tree to increase sap flow. Safe, easy to handle and inert to the acid, the Plaxpak bottle speeds up operations, vastly increases manhour output and helps to lengthen tree productivity.

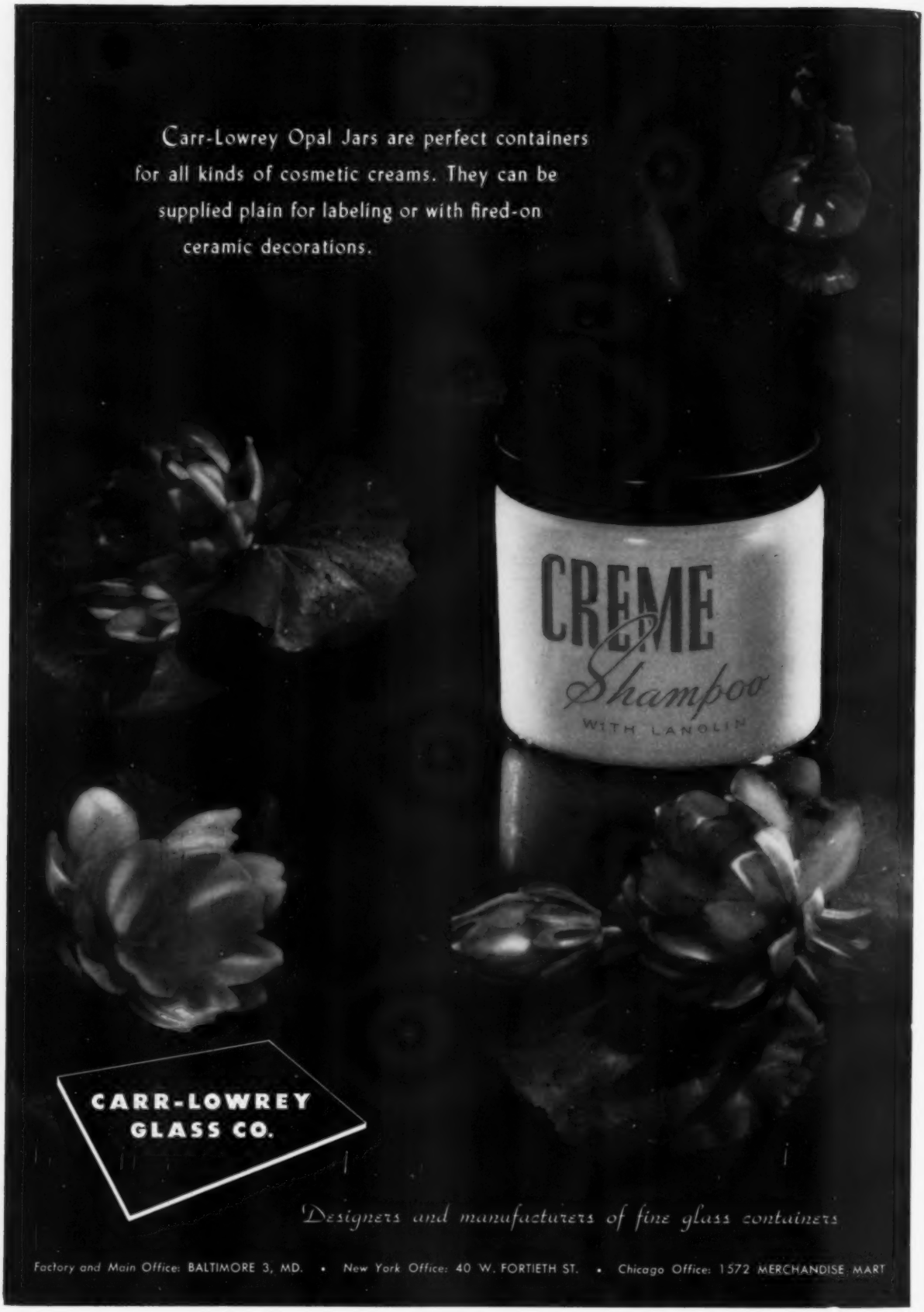
good enough

HELPFUL PLAX LITERATURE
Catalogs on Plaxpak bottles and other Plax products are available on request. Also available is a booklet "Fabrication of Polystyrene."

PLAX
FOR PLASTICS
NOT SUBSTITUTES — IMPROVEMENTS

PLAX CORPORATION
Subsidiary of Emhart Mfg. Co.
P. O. BOX 1019, HARTFORD 1, CONN.
In Canada, Plax Canada, Ltd., Toronto
Sales Offices: New York City, Syracuse, Philadelphia, Cincinnati and Chicago.

Plax blow-molded products are made under the following U. S. Pats.: 2128239, 2175053, 2175054, 2230190, 2260750, 2283751, 2349176, 2349177, 2349178, 2230188. *Reg. U. S. Pat. Off.


Carr-Lowrey Opal Jars are perfect containers for all kinds of cosmetic creams. They can be supplied plain for labeling or with fired-on ceramic decorations.
CREME
Shampoo
WITH LANOLIN
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 40 W. FORTIETH ST. • Chicago Office: 1572 MERCHANDISE MART

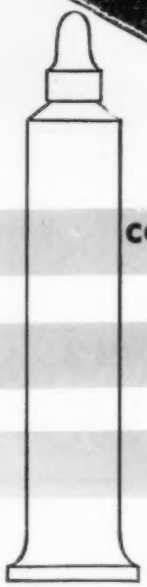
TUBES BY WIRZ

FOR A KIT WITH

CONVENIENCE

SAFETY

APPEAL



CONVENIENCE

SAFETY

APPEAL

Here is a sampling idea for industrial manufacturers and suppliers. A tie-in and multiple sale merchandising suggestion for consumer manufacturers.

Pack your selected products in Wirz tubes, assemble these tubes in convenient kits for over the counter sales or industrial sampling—you'll boost acceptance and sales.

Write today for your copy of Wirz folder—"Collapsible Metal Tubes." It contains complete data and valuable suggestions for tube use.

New York 17, N. Y. 50 E. 42nd St. | Chicago 4, Ill. 80 E. Jackson Blvd. | Memphis 2, Tenn. Wurzburg Bros. | Los Angeles 48, Calif. 435 S. La Cienega Blvd. | Havana, Cuba Roberto Ortiz & Son

Export Division—760 Drexel Bldg., Philadelphia 6, Pa.

A. H. WIRZ Inc.

Collapsible Metal Tubes • Lacquer Linings • Wax Linings • Westite Closures • Soft Metal Tubing • Household Can Spouts • Applicator Pipes • Compression-Injection Molding

2308 W. Townsend St., Chester, Pa.

#1

Non-rolling, extra-depth, Bakelite cap; thick-flange rubber bulb; Saftee-ball glass.

#3

Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

#4

Metal cap; AMEKINE oil-resisting rubber bulb; blunt glass.

Improved bottle shape. Designed to lie flat for convenient labeling. Front provides ample label space.

New Perfection

DROPPING PARTS

Protect YOUR PRODUCT'S REPUTATION

Your product's hard-won reputation is risked every time it is taken from the medicine chest. Any inconvenience, such as a non-functioning dropper, will be permanently associated with it. You can remove this risk by entrusting your carefully-compounded preparation to New Perfection dropping parts—painstakingly made of quality materials for the utmost in dependability and cleanliness.

✸ ***We can supply dropping parts to fit your bottles or furnish complete with our own bottles.***

RUBBER BULBS

are supplied in many styles and colors. Oil-resisting AMEKINE synthetic rubber is used for oil preparations; natural rubber is supplied for other products.

CAPS

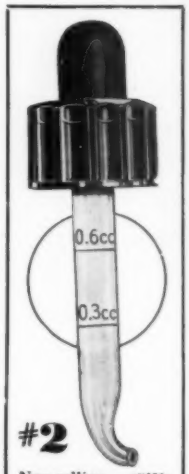
of plastic or metal, can be furnished in a complete range of sizes and colors.

DROPPER GLASSES

are available in a wide variety of styles and sizes. Plain or CALIBRATED in any color to mark specific dosages.

BOTTLES

in an attractive modernistic style in Amber, Blue, Green or Clear glass, are available, complete with dropping parts, in the following sizes: 2cc, ⅛, ¼, ½, 1 and 2 oz.



#2

Non-rolling extra-depth Bakelite cap; thick flange rubber bulb; CALIBRATED special bent glass.

Write for Samples and Quotations

PENNSYLVANIA
GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.

Neutraglas Ampuls are available in capacities from 1 ml. to 50 ml.;
Neutraglas Molded Containers, available in capacities from 1 ml. to 1,000 ml.

NEUTRAGLAS CONTAINERS—
trustworthy protection when life is at stake!

Vital, sensitive serums, drugs and other solutions administered intravenously are safe when stored in Neutraglas containers. For Neutraglas containers are virtual certificates of the utmost safety to the purity, potency and pH factor of their contents.

Neutraglas ampuls and serum bottles are made from a special Kimble borosilicate glass that is the most resistant workable glass known. They are especially trustworthy containers because the protection of Neutraglas goes clear through its dense, solid, one-piece structure.

Solvents, chemicals, sterilizing agents, even distilled water find Neutraglas containers persistently indifferent to chemical action. For detailed information on sizes and prices, write direct to:

KIMBLE GLASS TOLEDO 1, OHIO
Division of Owens-Illinois Glass Company

LASTING QUALITY FOR QUALITY NAMES

When your label is an actual part of the glass of an H-A cosmetic container, you have unequalled name permanence.

Delicate colors on glistening crystal bottles or gleaming opal jars make your sales message or directions a decorative, integral part of the package.

They can never come off—they're fired in the glass.

HAZEL-ATLAS GLASS COMPANY · *Wheeling, W. Va.*

Doings

Seaforth is planning to present the new solid after-shave lotion, Groom-Stick, in a special Christmas wrap of bright red and green.

White Laboratories, Inc. has produced Estan, a product which combines Dienestrol with Methyltestosterone in a ratio designed to bring about the maximal benefits of sex hormone therapy without undesirable side effects.

E. R. Squibb & Sons has released B Complex-12, a new vitamin capsule providing a complete source of the B complex vitamins, including Vitamin B_{12} and folic acid, for oral administration.

AR-EX Cosmetics, Inc. recently began distribution of lipsticks in match stick form, providing a full array of the latest lipstick shades for as little as 10c each. Each stick of the AR-EX LIP-TRIX may be used once and thrown away.

Parfum L'Orle is providing an assortment of 50 fragrances of its new Rare Perfume Essences for Christmas Gifts. Individually boxed flacons of 1¼ drams retail at $2.50 each.

Prom Cosmetics has produced Prom, a new type of home permanent kit which eliminates the neutralization step. It is available in three strengths, Prom Regular for normal hair; Super, for hard-to-wave hair; and Very Gentle, for bleached, dyed, tinted or easy-to-wave hair. There is a uniform processing time of 30 minutes, followed by a 30-second water rinse. Curlers remain on the head until the hair is dry.

The Zaiden Co. recently saturated the Canton, Ohio, market with Zadenol, a new dietary supplement which contains a daily Iodine Ration in addition to the B-Complex Vitamins, minerals and Liver Fraction I. The product is now being made available to both wholesalers and retailers.

Peggy Sage has introduced a new lipstick formula, Stay Sheen, which, after applied to the lips, retains a clean outline without smears, smudges or blotches. The lipstick is creamy and non-drying, and durable.

Lederle Laboratories has announced two new package sizes for its Ledercillin Soluble Penicillin Tablets, the 50,000 unit and 100,000 unit tablets, which can be obtained in vials of 100, in addition to the former 24 tablet size.

Maybelline has introduced a new Emerald Green Mascara which comes in three sizes, the Jeweler's Case ($1.25), 29c red plastic sliding-tray case, and the 15c small cardboard size.

Pinaud is presenting Lilac Vegetal After Shave Lotion and Eau de Quinine Hair Tonic for Christmas gift selling.

Lederle Laboratories has made the following changes in package sizes: Rabies Vaccine Modified Virus Avianized is now available in a 5 dose package; Canine Distemper Virus (modified) Avianized is available in a 10-dose package in addition to the single dose package; and Aureomycin Crystalline Capsules Veterinary are available in bottles of 100 capsules and in bottles of 16 capsules.

San-I-Cap Co. has come up with a sanitary tooth paste dispenser which fits on the tube in place of the regular screw cap. The attachment is a slide opener which automatically closes when not in use. It is made of molded plastic and appears in three colors, pink, powder blue, and white.

Winthrop-Stearns Inc. has introduced Mucilose Compound, a new bulk laxative which combines the water-binding power of psyllium gum and the beneficial properties of methylcellulose. Pleasantly flavored, it comes in tablet form in bottles of 100 and 1000.

Stanley Drug Products, Inc. is introducing Rumarid, a new scientific development for relieving pains of arthritis, rheumatism, neuritis, and allied conditions. It contains Renolon, brand of calcium acetyl-salicylate, which, in solution, is the combination of acetyl-salicylic acid and calcium glutamate.

Schering Corp. has prepared Cortogen Acetate, a new ophthalmic preparation, for the local cortisone therapy of the eye in cases of allergy and inflammation. The normal dose is one drop in the eye every one to four hours as needed.

Daggett & Ramsdell have announced the annual special sale of their Elorda Cream, the large $3.50-jar of which is selling at $1 through October 6. The 16-ounce bottle of Perfect Skin Lotion has been reduced from $1.50 to $1 during the same period.

Henry K. Wampole & Co., Inc. is offering Orgalac powder and tablets, a new dual-dose form nutrient formula which provides calcium, iron and iodine, as well as phosphorus.

Helena Rubinstein has perfected an automatic eye pencil that guarantees a sharp crayon. The plastic autopencil is white with gold printing and is equipped with black, brown, blue, or green leads.

Smith, Kline & French Laboratories have introduced Quotane Ointment and Quotane Lotion for the relief of itching and burning skin.

Union Pharmaceutical has produced Saraka in a new tablet form containing the same active ingredients as the original laxative. Union is offering druggists an introductory counter display unit containing six regular packages and one large size all for the price of the regular size alone.

McNeil Laboratories have come up with a new antispasmodic specialty Elixir Butisol-Belladonna.

HEYDEN

GLYCEROPHOSPHATES

The Heyden family
of glycerophosphates have long
been recognized as standards of quality and
purity by the medical and pharmaceutical professions.

CALCIUM GLYCEROPHOSPHATE N.F. (powder)

FERRIC GLYCEROPHOSPHATE N.F. (powder)

GLYCEROPHOSPHORIC ACID (35% solution)

MAGNESIUM GLYCEROPHOSPHATE (powder)

MANGANESE GLYCEROPHOSPHATE N.F. (powder)

POTASSIUM GLYCEROPHOSPHATE (75% solution)

SODIUM BETA-GLYCEROPHOSPHATE (reagent)

SODIUM GLYCEROPHOSPHATE N.F. (crystals and powder)

(also 50% and 75% solutions)

OTHER HEYDEN PRODUCTS FOR THE PHARMACEUTICAL, PERFUME AND COSMETIC INDUSTRIES

ACETANILID
ACETYLSALICYLIC ACID
BENZALDEHYDE
BENZOIC ACID
BROMIDES
CALCIUM BENZOATE
CALCIUM CREOSOTATE
COPPER PROTEIN
CREOSOTE
CREOSOTE CARBONATE
ETHYL BENZOATE
GUAIACOL
GUAIACOL CARBONATE
GUAIACOLSULFONATES
ICHTHAMMOL
METHENAMINE
METHYL BENZOATE
PARASEPTS® (Parahydroxybenzoates)
PENICILLIN
POTASSIUM CREOSOTE SULFONATE
PROPYL GALLATE
RESORCINOL
SACCHARIN
SALICYLATES
SALICYLIC ACID
SILVER, COLLOIDAL (Collargol®)
SILVER PROTEIN
SODIUM BENZOATES
STREPTOMYCIN
SULFIDAL®
TIN PROTEIN
THORIUM DIOXIDE, COLLOIDAL (Thorotrast® and Umbrathor®)
TOLYL ALDEHYDE

FINE HEYDEN CHEMICALS

Serving Industry
Through Finer Chemicals

HEYDEN
CHEMICAL CORPORATION

393 SEVENTH AVENUE, NEW YORK 1, N.Y.

CHICAGO • PHILADELPHIA • SAN FRANCISCO • DETROIT • PROVIDENCE

News . . .

Palmer Named Squibb Ass't Treas.

Lowell M. Palmer has been appointed assistant treasurer of E. R. Squibb & Sons, according to Lowell P. Weicker, president. He has had varied experience in all departments of the company, including field sales, sales forecasts and coordination of sales and production. He was elected a director of the company in 1948.

LOWELL M. PALMER

Lilly Plans Antibiotics Expansion

Eli Lilly Co. has started construction of a multi-million-dollar antibiotics plant on a 370-acre site southwest of Lafayette, Indiana. The new processing plant, expected to be in operation in about two years, will substantially increase the company's capacity for manufacturing penicillin and streptomycin.

The plant will consist of ten buildings, including a power house, and will include a fermenter building, a one-story purification building, and a two-story solvent recovery and storage building. The remaining structures will be a two-story laboratory, and shops with maintenance facilities on the ground floor and sterile laboratories on the upper floor; a mechanical equipment building for air sterilization, cooling and process refrigeration; a warehouse; and administration building.

Mier Back from Survey Trip

Jack B. Mier, vice-president in charge of foreign sales for Max Factor & Co., has returned from a six weeks' survey trip of the firm's branches and distributing offices in Colombia, Venezuela, Cuba, and Mexico.

Abbott Promotions

Three promotions in the Abbott Labratories sales organization have been announced by Herbert S. Wilkinson, director of sales. Arthur R. Schramm has become executive associate general sales manager; Fred W. Lawson, manager of professional relations; and Joseph S. Rowe, assistant manager of the drug trade division.

6 Added to Searle Research Staff

Dr. Byron Riegel, formerly professor of chemistry at Northwestern University, has been appointed director of chemical research by G. D. Searle & Co., according to Dr. Albert L. Raymond, vice-president and director of research. It was also made known that Dr. Riegel has been joined by Dr. Willard M. Hoehn, associate professor of pharmaceutical chemistry at Kansas City University, and Dr. Jack W. Ralls, previously postdoctoral fellow at the University of Wisconsin.

Dr. Frank B. Colton, research biochemist of the Mayo Clinic; Dr. Raymond M. Dodson, assistant professor of the University of Minnesota; and Miss Vieno Ojala, until recently technical librarian of the Great Lakes Carbon Corp., have also joined the chemical research staff.

DR. BYRON RIEGEL

McKeen AIC Honorary Member

John E. McKeen, president of Chas. Pfizer & Co., Inc., has been named an honorary member of the American Institute of Chemists for "his vigorous and unselfish effort in the advancement of chemical manufacture to help and heal mankind."

The citation, which has been made to only 46 men during the Institute's 28-year history, was announced by Lawrence H. Flett, president of the AIC and director of the new products division Allied Chemical & Dye Corp.

Expands Chem. Research Labs.

Heyden Chemical Corp. has completed plans for construction of a series of new laboratory units at its chemical research division, Garfield, N. J., which will increase research facilities by 30 per cent. The first new laboratory unit, now under construction, is scheduled for completion in the last quarter of 1951.

A major factor in this research expansion is a broad program to develop new applications of Pentek and other pentaerythritol derivatives which are used as the base for the new quick drying, weather resistant paints, varnishes, resins, and lacquers specified for defense uses.

Halby Products Taking Over

Halby Products Co. is now handling sales of ammonium thioglycolate, formerly handled by Halby Chemical Co., Inc. Former prices and product specifications are being maintained by the new company which will specialize in thioglycolates.

Stanton Chemicals Co., Chicago, and P. S. Soden & Co., Ltd., Montreal, will continue to act as sales representatives. McNerney Chemical Corp., Los Angeles, has been appointed as western sales representative.

Strong Cobb Opens Canadian Plant

Strong Cobb & Co., Inc. has announced the opening of a Canadian plant for the convenience of American pharmaceutical manufacturers who wish to operate economically in Canada by having their products made there, as well as for the convenience of Canadian firms.

Strong Cobb of Canada, Ltd. is located at 388 St. Paul Street, West, Montreal. Officers of the company include John S. Fralich, president; Michael A. Lauria, vice-president; George E. Burke, secretary; and John McJannet, treasurer.

JOHN S. FRALICH

NATIONAL
CARBIDE DIE COMPANY
TOMORROW'S ENGINEERING TODAY

LONG RUN
LONG LIFE
Carbide
Precision TABLET DIES & PUNCHES

IT PAYS TO INVEST IN TUNGSTEN CARBIDE DIES and PUNCHES

. . . and your investment is more valuable when you invest in National Tungsten Carbide Dies and Punches! Why *National?* Certainly there are many reasons for *National's* leadership but foremost among them is the fact that *National Carbide Die Company* manufactures more pharmaceutical dies than all other companies combined. We also want you to know that *NCDC* was the original manufacturer of pharmaceutical carbide dies and punches. This early start has given *NCDC* "out-in-front" advantages of know-how and the answers to every new problem that arises. We will be happy to help you with your problems.

NATIONAL CARBIDE DIE COMPANY · Greenock Road · McKeesport 2, Pa.

Harger Named Cutter Advg. Mgr.

Jack Harger has been appointed advertising manager for Cutter Laboratories, according to Donn R. Court, vice-president in charge of sales and advertising.

Amer. Cyanamid Elections

E. D. Powers, vice-president in charge of production, was elected to the board of directors, American Cyanamid Co., according to Raymond C. Gaugler, president. He succeeds H. P. Eastman who retired August 31.

A. J. Campbell, general manager of the industrial chemicals division, and Howard Huston, formerly assistant to the president, were elected vice-presidents. L. C. Duncan was elected assistant to the president. Other executive changes included the election of J. J. Murray and Mr. G. C. Walker as assistant treasurers, and J. W. King and Mr. W. B. Ward as assistant comptrollers.

Dr. Munch With Strong Cobb

Dr. James C. Munch has joined Strong Cobb & Co., Inc., as medical director. He has been an auxiliary member of the Revision Committees of USP X, XI, and XII, and of NF VI, and is a life member of the American Pharmaceutical Association.

DR. JAMES C. MUNCH

Armour to Sponsor Symposium

Armour & Co. will sponsor an international symposium in the Palmer House, Chicago, September 18, at which leading European and American biochemists will discuss the chemistry of ACTH. The conference will follow within a few days the Jubilee meeting celebrating the 75th birthday of the American Chemical Society, together with the meetings of the International Chemical Congress and the International Chemical Union in New York and Washington.

Jack Harger, left, advertising manager for Cutter Labs., and Donn R. Court, vice-president in charge of sales and advertising, locating Chattanooga, Tenn., on map. The company is planning to open a new solutions plant in the Chattanooga area within a short time.

Dr. Crosley with Sharp & Dohme

Dr. Archer P. Crosley, Jr. has been appointed a staff physician in the medical division of Sharp & Dohme, Inc., according to Dr. William P. Boger, medical director.

Fuhrmann Appointed by Lemke

Michael Fuhrmann has been appointed sales manager by B. L. Lemke & Co. Inc. He has been in charge of quality control and special sales development for the past six years.

MICHAEL FUHRMANN

Lemmon Expansion Program

Lemmon Pharmacal Co. has completed the initial six-months phase of its large-scale expansion program and has added two new division managers and eight new sales representatives, according to John L. Lemmon, president. Another immediate result of the expansion program is an increased sales volume which in the first six months of 1951 produced greater profits than the total for any preceding full year in the history of the company.

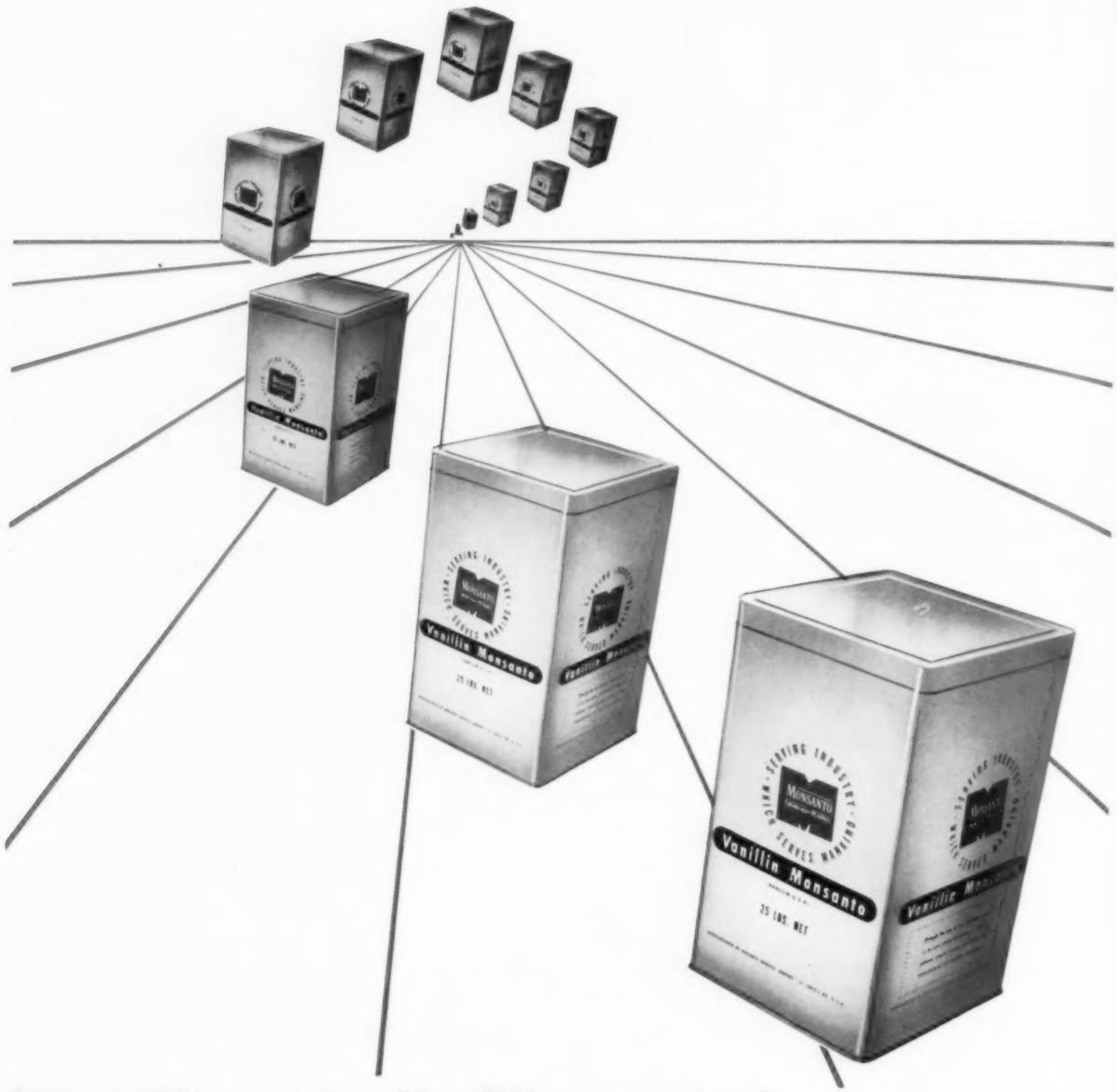
Breidenbach Named CSC Dist. Mgr.

R. W. Breidenbach, formerly of the company's Los Angeles office, has been appointed San Francisco district manager for the Industrial chemicals division of Commercial Solvents Corp. He will report to E. W. Bacigalupi, western regional manager.

Manesty Machines in U.S.

Sirec, Inc., 42 Broadway, New York, has been appointed United States representative of Manesty Machines Ltd., manufacturers of machinery for the pharmaceutical, chemical, and allied industries. Arrangements have been made for the offering of this machinery on the American market in conjunction with service facilities and the stocking of spare parts in New York.

The factory and executive offices of Manesty Machines Ltd. are located at Liverpool, England. The firm has for many years been established as a manufacturer of a wide range of tablet compressing machinery and ancillary equipment. The machines being made available to the American Market comprise special laboratory machines for experimental purposes, single punch machines for which multiple punches producing up to 8 tablets per stroke are manufactured, rotary, and double rotary machines capable of producing up to 90,000 tablets per hour. In addition, there are coating pans of copper, stainless steel, galvanized iron or glass produced in a variety of types, including variable speed drives and hot air blowers as required. Other items include mixers and oscillating granulators of stainless steel, drying ovens fitted with trucks containing up to 80 trays, tablet counters, elevator feed units and water stills.



More Monsanto Vanillin coming!

Construction workers are busy today erecting a new Monsanto plant for the production of vanillin. The expanded output will be available to add flavor or aroma to your pharmaceuticals or soaps early next year. The new vanillin production also will release facilities for the manufacture of more Ethavan. Thus, the project will relieve shortages of both Monsanto Vanillin and Monsanto Ethavan.

The additional production will maintain the high standard of purity that has made Monsanto Vanillin preferred by drug and cosmetic manufacturers for nearly 35 years. Monsanto Vanillin, having true flavor and aroma, always is uniform . . . always dependable in your formulations.

For product information on Monsanto Vanillin or other Monsanto flavor and aroma chemicals, contact the nearest Monsanto Sales Office or write MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

MONSANTO FLAVOR and AROMA CHEMICALS

Coumarin Monsanto — Often used to "fix" delicate flavors of Ethavan and vanillin.

Ethavan — Monsanto's ethyl vanillin produces a distinctive vanilla-like flavor and aroma.

Methyl Salicylate — Synthetic oil of wintergreen.

Vanillin Monsanto — A delightful vanilla-like flavor and aroma.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

Ethavan: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Erath with Whittaker

William F. Erath has joined the technical and sales staff of Whittaker, Clark & Daniels, Inc. An authority on dry colors, he first worked for the G. Siegle Co. of Germany which sent him to the branch plant in Staten Island. Mr. Erath later operated a color laboratory and supervised sales work for Siegle in Chicago.

Through his efforts, a Federal law was promulgated in 1939 and supervised by the Food & Drug Administration for the purification and certification of cosmetic colors.

WILLIAM F. ERATH

Drug & Chem. Assn. Elections

Frank D. Nowland, Geo. H. Nowland Co., was elected president of the Cincinnati Drug and Chemical Association, Inc. for the year beginning July 1, at a recent meeting. Additional officers elected include Fred Rohel, Amsco Solvents and Chemical Co., vice-president; Vernon Tucker, Mallinckrodt Chemical Co., secretary; and Lawrence Meiners, Merchants Chemical Co., treasurer.

Elected to the board of trustees were Walter M. Eller, Fritzsche Brothers, Inc., the retiring president; George A. White, Innis Speiden & Co.; Owen Sexton, H. Blacker Printing Inks, Inc.; and Paul Wiemer, Jr., U. S. Industrial Chemicals, Inc.

Dr. Blank With Squibb

Dr. Harvey Blank, assistant professor with the department of dermatology and syphilology of the University of Pennsylvania, has been appointed to the medical division of E. R. Squibb & Sons as an associate medical director. He is also consultant in dermatology and syphilology to the Surgeon General, U.S. Army, and consultant for the Institute for Nuclear Studies of the Atomic Energy Commission at Oak Ridge.

At Squibb he will specialize in the fields of dermatology, allergy, and the chemotherapy of cancer.

Pilgrim Heads Pfizer Research Staff

Frederick J. Pilgrim, has been appointed chemical research manager at the Groton, Conn., plant of Chas. Pfizer & Co. Inc., according to Wilbur A. Lazier, director of chemical research and development. He will be assisted by Robert E. Kent and Jay S. Buckley, Jr., research supervisors at Groton.

The chemical research and development staff at Pfizer's Brooklyn plant has been enlarged by the addition of Franklin S. Chance, Jr., Roger D. Smith, and Carl W. Weil.

MILTON E. MARCHAND

Marchand Promoted by Sterling Drug

Milton E. Marchand, insurance manager and transfer clerk of Sterling Drug Inc., has been elected assistant secretary of the corporation, according to James Hill, Jr., chairman and president.

Kinsey Resigns from Baker

George H. Kinsey has resigned from H. J. Baker & Bro., New York. Mr. Kinsey plans on taking a prolonged rest before making any future plans.

Brockway Glass Opens 4th Plant

Brockway Glass Co. has opened its fourth plant which is located at Lapel, Indiana, where glass containers for food products, liquor, proprietary and pharmaceutical medicines will be manufactured. Ray Schlehr is manager of the new plant, according to G. A. Mengle, president. He will be assisted by Paul Hubbard. W. E. Frick has been appointed the office manager; Robert Warfield, Jr., in charge of traffic, purchases and plant scheduling; and Harry White, superintendent of the packing room.

Sales of glass containers manufactured at the new plant will be handled by the home office at Brockway, Penn., through the mid-west sales offices at Chicago, Detroit, Cleveland, Cincinnati, and Louisville, as well as the recently opened office in Indianapolis under the direction of Brockway's Indiana sales manager, R. O. Braund.

Davis & Geck Appoints Adams

C. C. Adams has been appointed to the newly created post of director of professional relations by Davis and Geck, Inc. He will also be in complete charge of the company's "Cine Clinic", an educational film program for practicing surgeons, developed last year by Davis and Geck in cooperation with the American College of Surgeons. The Clinic consists of color films produced by the company showing the latest surgical techniques employed during actual operations. At each annual meeting of the American College of Surgeons the leading surgeons whose techniques, have been filmed will describe their techniques in person during the first showing of the films.

Left to right, Sewell Andrews, vice-president, chemical division, General Mills, Inc.; K. K. Boyd, secretary, Emery Industries, Inc.; and S. K. Plasman, commercial research dept., Armour & Co., studying a project for improving industry statistics among the producers of fatty acids. Official title of three-man group is Statistics Committee of the Fatty Acid Section, Association of American Soap & Glycerine Producers, Inc.

New D & O Sales Offices

Dodge & Olcott, Inc. has opened two new sales offices, one in Baltimore and one in Minneapolis. William Peacock, formerly of the Philadelphia sales force, has taken over the Baltimore territory and office which is located in the Mathieson Building, at Baltimore and Light Streets. William Arko, the Minneapolis representative, has made his headquarters in that city and will cover all of Minnesota and part of Wisconsin.

New building of Neumann-Buslee & Wolfe, Inc. which contains latest developments in equipment and straight-line operation, enabling company to expand production greatly.

Atlas Promotes Carter

Charles H. Carter, Jr., manager of the central research laboratory, Atlas Powder Co., has been appointed assistant general manager of the company's industrial chemicals department, according to Isaac Fogg, president. He will be responsible for the coordination of sales development and operations of the industrial chemicals department with the activities of the research, engineering, and purchasing departments.

Dr. John D. Brandner, has succeeded Mr. Carter in his former position.

Merck Experimental Farm

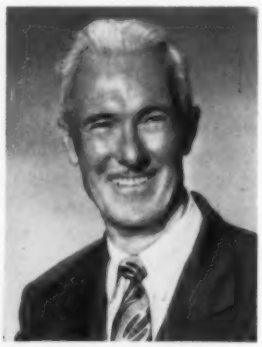
Merck & Co. has signed contracts to purchase Beacon Lodge, a 208-acre farm estate in North Branch, N. J., which it will develop as an experimental farm. This is part of the company's plan to expand its research program to include studies of the growth and development of animals under actual field conditions. The studies will embrace various phases of animal nutrition and other problems of animal husbandry, including means of checking parasitic or infectious diseases of farm animals.

Neumann-Buslee in New Location

Neumann-Buslee & Wolfe, Inc. are now located in their new building at 5800 Northwest Highway, Chicago 31. The building embodies the latest equipment and straight-line operation, greatly expanding the company's production of imitation flavors, aromatics and citrus concentrates. Sufficient adjoining space has been purchased to enable further expansion and development.

Officers and directors of the company are John Buslee, president and treasurer; Nicholas A. Kern, secretary; and J. B. Kielhofer, assistant treasurer. Mr. Buslee began his career in the essential oil industry with M. L. Barrett & Co. in 1900 and was one of the pioneers in the introduction of Certified Food Colors after the passage of the Food and Drug law in 1906. He worked for the National Aniline and Chemical Co. until 1920, in which year, along with John H. Neumann and J. Emmett Wolfe, he formed the firm of Neumann-Buslee & Wolfe, Inc. at 325 No. Sheldon St., later moving to 224 W. Huron St., Chicago.

Mr. Wolfe retired in 1934 and Mr. Neumann, in 1944.



WILLIAM A. MASON

DR. GEORGE K. HAWKINS

Mason Returns to Strong Cobb

W. A. Mason has rejoined the staff of Strong Cobb & Co., Inc., after an absence of 20 years, according to George Miller, president. He will act as production consultant, working as assistant to vice-president Michael A. Lauria. Mr. Mason started with Strong Cobb in 1908 and left the company in 1931 to live in Buffalo during the intervening years.

Hawkins Joins Schering Med. Staff

Dr. George K. Hawkins has been appointed to the staff of the Schering Clinical research division, according to Francis C. Brown, president. He joined Schering as a chemist over ten years ago and recently completed his medical studies at the University of Maryland School of Medicine.

Elected to N. Y. Acad. of Sciences

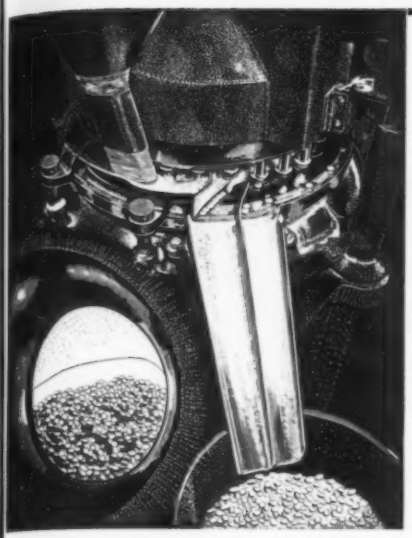
Dr. Victor G. Fourman, president of the Syntomatic Corp., has been elected to the membership of the chemical section of the New York Academy of Sciences.

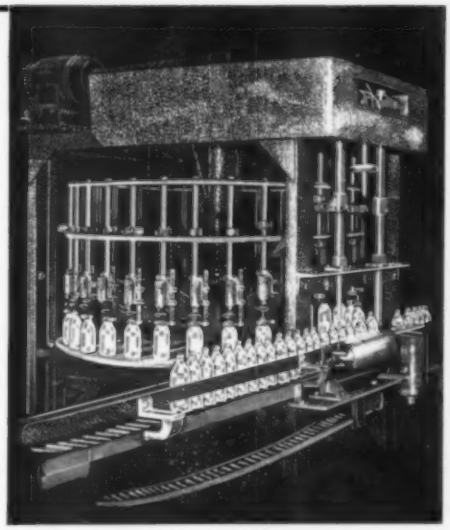
O'Leary Appointed by McNeil

Dr. John F. O'Leary has been appointed senior scientist in the department of pharmacology, division of medical sciences by McNeil Laboratories. In this capacity he will serve as senior investigator in the research division of the company.

BIMS Golf Outing

The BIMS of Boston held their August golf outing on the 16th at Woodland Golf Club in Auburndale, with about 40 members and guests attending. Prizes were won by James P. Kelley, the Pacquin Co.; Robert B. Seth, Boston Chemical Products Co.; Thomas J. Conlon, the Dow Chemical Co.; Donald Bush, Firmenich & Co.; Joseph J. Flanagan, Pottery Drug and Chemical Co.; A. William Dehle, Boston Chemical Products Co.; F. J. Hailer, Jr., Whittaker, Clark & Daniels Co.; Robert A. Armstrong, Goldschmidt Chemical Corp.; and E. M. Wright. The final tournament of the season was at Nashua Country Club, Nashua, N. H. on September 12.





Finer service for you through concentration

on fewer fine chemicals

One of our specialties:

ammonium chloride

A DUAL-PURPOSE CHEMICAL

You are served better and *in more ways* when we keep our production of fine chemicals to less than one hundred.

Let us see how this applies with regard to Ammonium Chloride:

Concentration enables us to offer Ammonium Chloride to you as a dual-purpose product. It is physically uniform—made in the proper range of particle size to permit direct compression into tablet form or to go into solutions quickly. This dual-purpose feature eliminates duplicate inventories for you, and helps reduce your production costs.

Concentration enables us to offer you an Ammonium Chloride whose chemical purity is precisely controlled from raw materials to finished product. It is produced in stainless steel equipment as an added safeguard to purity.

Whatever your requirements for Ammonium Chloride—call on Baker. Samples and prices will be forwarded gladly upon request. Address: *Fine Chemical Division*, J. T. Baker Chemical Co., Phillipsburg, N.J.

Baker CHEMICAL

Baker Chemicals

REAGENT • FINE • INDUSTRIAL

17 major tests!

to assure lipstick quality

KOLMAR, recognized as America's leader in private label cosmetics, assures *highest quality* and *uniformity* by an intensive program of tests and retests. *Lipstick,* for example, is given 17 major tests and many additional routine tests throughout the entire manufacturing process.

Besides the more or less routine tests, such as melting and softening point; application, correctness of shade, sheen, color distribution, etc., we of Kolmar make special tests such as breaking point, water bleeding and scientific stain analysis. Many of the major tests are done with micro-photographs (magnified 400 times).

Kolmar's testing program is continuous from the raw materials to the finished product. Every batch of lipstick made, regardless of size, is not only given the 17 major tests, but all the tests are repeated and repeated until the batch is used up. Only a few of the 17 major tests are listed here, but we shall be glad to reveal Kolmar's complete testing data to interested parties.

KOLMAR methods are unique. Its various plants across the country are staffed by *experienced chemists and highly trained technicians,* continually seeking new and better methods . . . and when necessary, inventing and producing special machinery and equipment to achieve the results desired. Thus KOLMAR Laboratories are recognized as *originators, pioneers* and *leaders* in the creation of finer cosmetic products.

Kolmar Private Label Cosmetics give you the ultimate in consumer appeal and satisfaction. Consultation will not obligate you.

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CANADA: KOLMAR WILCKENS, LTD., PLANT IN OAKVILLE, ONTARIO; OFFICE: 205 YONGE ST., TORONTO, ONT.
AUSTRALIA: KOLMAR (AUST.) PTY. LIMITED, 494 KENT ST., SYDNEY; KOLMAR EUROPE: PARIS, FRANCE

Schulz Advanced by Ciba

Paul Schulz has been appointed by Ciba Pharmaceutical Products, Inc., to fill the newly created position of assistant manager, pharmaceutical manufacturing division, according to Dr. W. H. Fischer, vice-president in charge of production. He has been manufacturing pharmacist in charge of ampul production since 1949.

WALTER ENNIS

Ennis Starts Own Business

Walter Ennis opened his own business on August 15 under the name of Walter Ennis Associates, operating a sales service to household drug, health, and cosmetic manufacturers desiring to sell through food outlets. He recently resigned as merchandising director of Calkins & Holden, Carlock, McClinton & Smith, Inc.

His new address is 545 Fifth Ave., New York.

McPherrin Joins Amer. Magazine

John W. McPherrin has joined Crowell-Collier Publishing Company as vice-president and publisher of the American Magazine. Editor of the American Druggist since joining the Hearst organization in 1942, Mr. McPherrin was being advanced to the position of assistant publisher of Cosmopolitan, another Hearst magazine. However, he is joining Crowell-Collier before this change occurs.

Chicago Cosmetic Chemists Meet

The Chicago Chapter of the Society of Cosmetic Chemists resumed its monthly dinner meetings on Tuesday, September 11, at Henrici's Restaurant, when Herbert L. Sanders, technical director of Ninol Laboratories, delivered a paper on "Rating the Surfactants". The paper tied in with Dr. Colburn's presentation last June on Emulsifiers.

Callery Promoted by CSC Pharm.

Thomas R. Callery has been appointed assistant general manager of C.S.C. Pharmaceuticals, a division of Commercial Solvents Corp., according to H. J. Henry, vice-president of product division. He was formerly executive assistant to M. M. Ricketts, general manager of C. S. C. Pharmaceuticals.

THOMAS R. CALLERY

Buys Yeast Processing Patents

The Metal Glass Products Co., Belding, Mich., manufacturers and distributors of stainless steel SAN-I-TANKS, has purchased all manufacturing and patent rights held by the Yeast Processing Equipment Co. of Dowagiac, Mich., according to William H. Chapman, general manager, and Walter E. Battles, sales manager of the firm. The rights were purchased from Dr. Albert M. Fischer, inventor of many devices for improving the processing of beer and distilled products.

The Fischer Pure Yeast Culture apparatus, the Fischer pitching yeast purifier, and the Fischer yeast washer and storage tank will be manufactured at the Belding plant of the Metal Glass Products Co.

Walker Vitamin Changes Name

Walker Vitamin Products, Inc. has changed its name to Walker Laboratories, Inc., in line with its expansion program. The name change has been timed to coincide with the company's moving into new quarters (September 1) and the dedication of the new building at Bradford Road, Mount Vernon, N. Y. on October 1. Walker plans to develop new products now under consideration and expand its interest in important fields of research.

Join Sharp & Dohme Research Staff

Four new research associates have been appointed to the research staff at Sharp & Dohme, according to Dr. L. Earle Arnow, director of research. Dr. Walter F. Charnicki has become a member of the staff of pharmaceutical research; Dr. John R. Corrigan, is on the staff of the chemical development department; Virginia Lytle, the department of virology; and Dr. Joaquin Munoz, the bacteriology department.

vonHofe on European Trip

George W. vonHofe, president of the New Jersey Machine Corp., went to Europe last month to make an intensive study of packaging and box manufacturing equipment and development with relation to possible benefits to the American manufacturers. His trip includes contacts in England, France, Switzerland, and Germany, and will cover a period of approximately six weeks.

A dinner was arranged for Mr. vonHofe and wife at the Hotel Astor, marking their departure on August 14. Richard Wellbrock and Richard Dede, vice-presidents in charge of sales and production; Alfred Goelz, Rudolf Welti, and Afferica, officers of the company, were also present.

George W. vonHofe, president, N. J. Machine Corp., (third from left), at dinner in his honor, prior to European trip. Party was given by officers of company, left to right, Steve Afferica, Rudolf Welti, Mr. vonHofe, Richard Dede, Alfred Goelz, and Richard Wellbrock.

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Couderchet Announces Merger

Maurice G. Couderchet, sales manager for Bruno Court S. A. of Grasse, France, is at present in New York visiting the American Representatives, Naugatuck Aromatics. He has announced the merging of his firm with the House of Jean Roure, Pierre Ziller & Cie and the creation of the new company, Jean Roure, Pierre Ziller, Bruno Court & Cie.

The new company will have available the technical organizations of the two former houses and will possess a wide range of specialties and compounds. Naugatuck Aromatics will continue as the the United States representative.

MAURICE G. COUDERCHET

Squibb Appointments

William B. Colgate has been appointed associate director in the division of product planning, according to C. O. Kendall, director of product planning for E. R. Squibb & Sons. He will head product planning work in connection with the research and development program for Squibb overseas companies.

D. R. Zimmerman has been appointed to succeed Mr. Colgate as director of sales training, and he in turn, has been succeeded in his former capacity as manager of Squibb hospital and institutional sales by F. W. Nehring.

Named Canadian SKF Sales Mgr.

John R. Klopfer has been named sales manager of the Canadian branch of Smith, Kline & French Inter-American Corp., succeeding Robert F. Daily who recently became branch manager in Montreal. He had formerly been associated with the firm's American branch in Philadelphia.

Join Pfizer Med. Service Division

Dr. Michael S. Ambrose and Dr. William J. Farley recently joined the medical service division of Chas. Pfizer & Co. Inc.

Damko Joins D&O Chicago Office

Andrew Damko has joined the sales staff of the Dodge & Olcott Chicago office. He will specialize in flavors, and under the supervision of the branch manager, Frank Topper, will also represent the company in part of Wisconsin.

Bratt Appointed by Continental Can

H. G. Bratt has been appointed general manager of manufacturing, metal division, for Continental Can Co., according to T. C. Fogarty, executive vice-president of the division. He replaces L. C. Walgash who resigned from the company in July.

H. G. BRATT

Evans Research Builds Pilot Plant

The Evans Research and Development Corp. has just acquired a 2½-story building in Yonkers, N. Y., to accommodate the increasing number of research assignments which it is conducting for its clients. The new laboratory annex will be used primarily as a pilot plant where industrial operations will be set up on a small scale to facilitate production studies.

Heyden to Move N. Y. Office in '52

Heyden Chemical Corp. has signed a lease for the entire 16th floor in the Canadian Pacific Building, 342 Madison Ave. for occupancy in early 1952, and plans to use the new space for the executive offices now located at 393 Seventh Ave. The new location will also be used as headquarters for the sales offices of its subsidiary, the American Plastics Corp., and for the Heyden medical department now located at 225 West 34th St.

Breon Research Grant

George A. Breon & Co. has awarded another grant to the University of Kansas City's College of Pharmacy to finance research for one year on the basic physiologic and pharmacologic action of bile acids, according to Dr. Clyde W. Geiter, medical director of the company, and Dr. T. T. Dittrich, dean of the college. The research program is under the direction of Dr. Leslie Eisenbrandt, professor of pharmacology at the college.

Prager Appointed by Ciba

Julius Prager has been appointed by Ciba Pharmaceutical Products, Inc. to the newly created position of manufacturing pharmacist in charge of ointment manufacturing and packaging operations, according to Dr. W. H. Fischer, vice-president in charge of production.

Named Hopkins Representative

E. M. Tysdal has been named midwest sales representative for J. L. Hopkins & Co. He has been active in the drug, botanical and aromatics industries for the past 41 years.

Meeting at Hotel Astor, N. Y., are salesmen for Slifer-Weickel, Inc., recently named sales representative for Helen Neushaefer Cosmetics. Left to right, John B. Brennan, of Neushaefer; Jack Schechtman, Thomas C. Dwyer, Bernard Friedman, Murray Cohen, Thomas L. Floyd, Jr., Robert Quackenbush, and Sidney Hirschman, all of Slifer-Weickel; Helen Neushaefer; Herbert Slifer, George Weickel, Morton Weiss (foreground), salesmen.

GEORGE A. HARRINGTON

Harrington with Mallinckrodt

George A. Harrington has joined the staff of the Mallinckrodt Chemical Works, St. Louis, where he will be engaged in the company's marketing and sales development activities.

New Research Lab. Building for Ciba

Ciba Pharmaceutical Products, Inc. is starting construction on a new research laboratory building to house the macro-biology division at Summit, N. J., according to T. F. D. Haines, president. The new building will cover an overall area of 30,000 square feet and will be the twentieth structure erected on the fifty acres to which Ciba moved in 1937.

Dr. Kitchen to Represent A.P.M.A.

Dr. Delmas K. Kitchen of Bristol Laboratories has been appointed to represent the American Pharmaceutical Manufacturers' Association at the Fifth General Assembly of the World Medical Association. He will act as an observer at the sessions to be held at Parliament House in Stockholm, Sweden, September 15 to 20.

Dow Expansion Program

The Dow Chemical Co. plans to build new research facilities at its Midland, Mich., and Freeport, Texas plants which will cost $4.5 million. The Midland project includes new organic, spectroscopy and special service laboratories, as well as a new technical library building, while the Freeport project will take the form of an eight-building research center of some 57,000 square feet.

Named Squibb Assoc. Med. Director

William Konigsberger has been appointed associate medical director for clinical investigation overseas by E. R. Squibb & Sons, according to Geoffrey Rake, medical director for the company.

de Laire Attends World Conclave

M. Jean de Laire of Fabriques de Laire, Paris, was appointed official French delegate to the World Chemical Conclave which opened in New York September 2. During his stay in New York, M. de Laire also conferred with Joseph Rudolph, president of Dodge & Olcott, Inc., and with members of the de Laire division of the company. He and Mme. de Laire returned to Paris September 16.

Poultry Disease Courses Completed

A total of 151 dealer-students attended the 221st, 222nd, and 223rd Dr. Salsbury's Dealer-Training Schools in poultry disease held at Charles City, Iowa, from July 23 through August 10. Students attended from 21 states and from three foreign lands, while instruction was given in such subjects as anatomy and physiology, bacteriology, coccidiosis, blackhead, and worms.

DR. JEREMIAH A. MOYNIHAN

Joins Schering Medical Staff

Dr. Jeremiah A. Moynihan has been appointed to the Schering medical service staff, according to Dr. John N. McDonnell, vice-president of Schering Corp.

New Bulletin on Bottle Cleaner

U. S. Bottlers Machinery Co. has issued a new bulletin on the U. S. Sanitair Automatic Bottle Cleaner, describing its new automatic features. Copies are available upon request from the company at 4013 North Rockwell St., Chicago 18.

Thompson Receives Life Membership

Marvin R. Thompson, president and director of research of Marvin R. Thompson, Inc., has been elected to life membership, College of Pharmacy, Columbia University of the City of New York. He is the past chairman of the Board of Trustees of the college.

Forsman Wins Schultes Trophy

Peter L. Forsman, vice-president of C. H. Forsman Co., won the Martin F. Schultes Memorial Trophy in the BIMS golf tournament at the Plandome Golf Club, Plandome, L. I., August 23. His gross score was 75. Mr. Forsman may keep the trophy for one year but will have to return it for the winner of the 1952 tournament. He will be presented with a smaller replica of the bowl, however. In order to gain permanent possession of the trophy, a member must win the tournament three times in succession.

Other winners were Ross A. White, E. N. Rowell Co., Inc.; J. Dudley Shaw, Allen B. Wrisley Co.; Fred A. Parker, Pond's Extract Co.; John G. Kemp, Warner-Hudnut, Inc.; Charles B. Darcey; William F. Zimmerman, W. F. Zimmerman, Inc.; C. R. Keeley, *Beauty Fashion*; Harry C. Griffiths, Pennsylvania Drug Co.; Walter J. Jamieson Corp.; Charles W. Darr, Snyder Box Co.; John E. Gabrielson, Avon Products, Inc.; Frank L. Kiernan, Kiernan-Hughes Co.; James McInnes, Jr., Commercial Solvents Corp.; and Donald F. Leyden, Hampden Glazed Paper & Card Co.

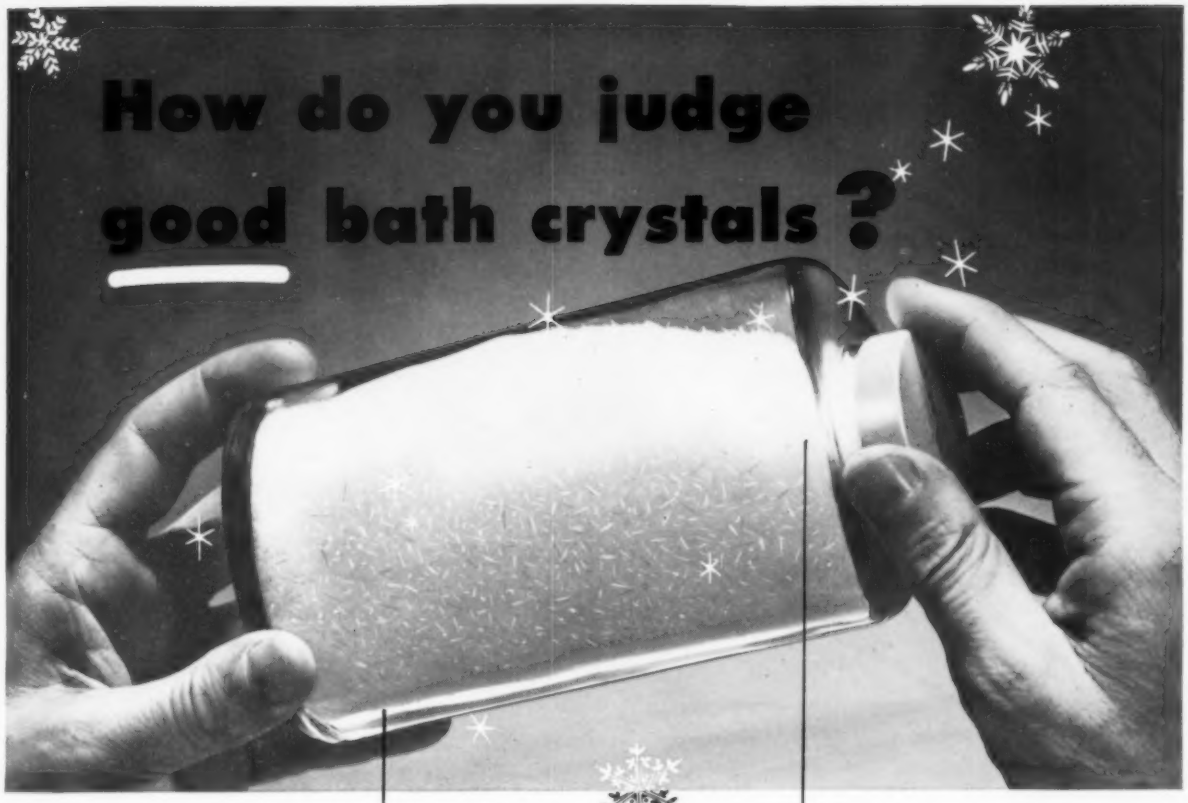
Purchase Raisin-Thiebaut

R. P. Bemiss and W. E. Jason, president and vice-president, respectively, of Bemiss-Jason Co., supplier of corrugated paper specialties, have jointly purchased Raisin-Thiebaut, Inc., makers of set-up cosmetic boxes. Wilson J Field has been appointed as new general manager of the box firm. The company will continue to operate with its present employees, making boxes for both special uses and general merchandise.

Taylor Joins Bristol Labs.

Dr. Herbert W. Taylor Jr. has joined Bristol Laboratories Inc. as patent analyst, according to John P. Murphy, patent counsel.

HERBERT W. TAYLOR, JR.



. . . By such sales-producing features as sparkling beauty? . . . lovely color? . . . delicate scent? Do you feel that fine bath crystals should have efficient water-softening properties? . . . flow freely from the container? . . . store well?

If these are the standards by which you judge quality bath crystals, then Solvay SNOWFLAKE CRYSTALS are exactly what you want!

The ultimate consumer will be highly pleased with your product . . . and little wonder! Look at all the exciting performance features these scintillating crystals offer.

Start now to build your bath crystals sales . . . use Solvay SNOWFLAKE CRYSTALS for *your* bath crystals.

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Readily absorbs dyes
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Dissolves instantly
Softens water promptly and effectively
Will not change physically or chemically in the package
Mild and non-irritating to the skin
Special detergent properties help soap lather better
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FOR BATH CRYSTALS

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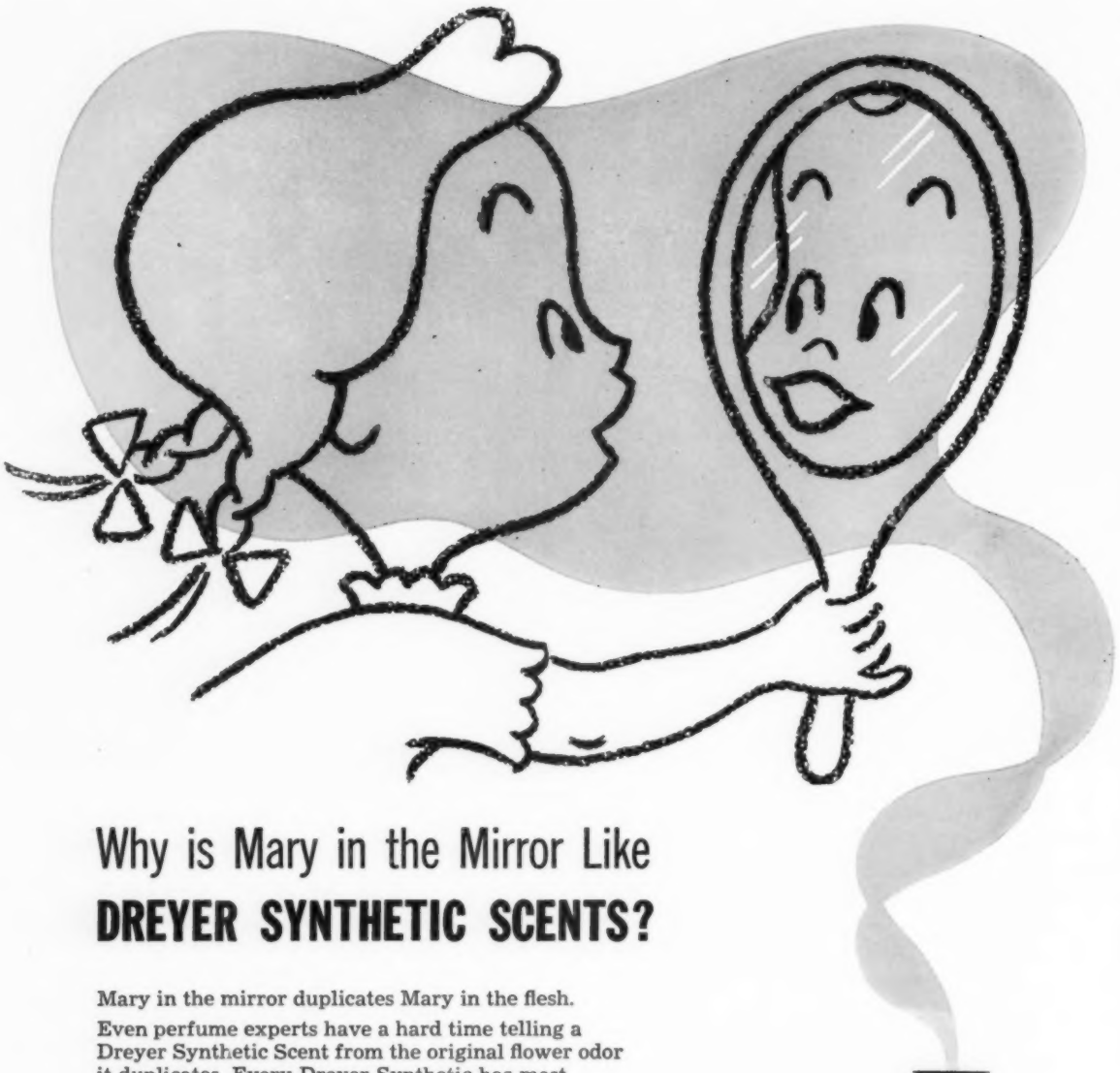
Specialty Cleansers • Sodium Nitrite • Ammonium Bicarbonate
Para-dichlorobenzene • Ortho-dichlorobenzene • Formaldehyde
Monochlorobenzene • Methanol • Ammonium Chloride



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Mary in the mirror duplicates Mary in the flesh.

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Dreyer Floral Creations and Bouquets are stable! They have substance, long-lasting body, and uniformity that often is more dependable than Nature's.

Depend on Dreyer's stabilized prices to keep your costs from rising. Save when you *buy*–save when you *use*–get more profits from your perfume products. Send today for samples that prove what you'll save by using Dreyer Synthetics.

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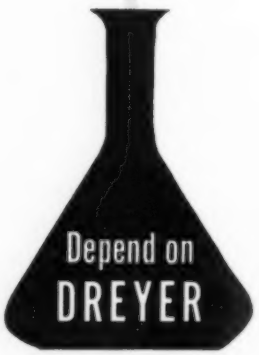

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Please send your catalogue of Dreyer Synthetic Scents, and samples of.....

.....

YOUR NAME.....YOUR COMPANY.....

STREET.....CITY.....ZONE.....STATE.....

Appointed by Winthrop-Stearns

Dr. Eugene J. Thompson has been appointed associate medical director of Winthrop-Stearns Inc., according to Dr. Justus B. Rice, medical research director. He will work in the department of medical research, which is concerned with clinical investigation of new pharmaceuticals, and he will also assist in the training of the company's professional service representatives.

DR. EUGENE J. THOMPSON

Van Nortwick to Cover New England

J. G. Van Nortwick, senior vice-president and director of J. L. Hopkins & Co., has taken over the New England and Eastern New York territory formerly covered by Frank J. White who died July 7. He will continue to serve the Mid-west territory which he has been covering for the past twenty-five years.

Sales Agents for Kessler

Daniel G. Hereley Co., Chicago, has been appointed sales agent for the Chicago area of Kessler Chemical Co., Inc., while the Truesdale Co., Boston, will represent the New England area; and Plastex Products Co., Georgia, the southern area.

Putnam Becomes Dow Exec. V.P.

Dr. Mark E. Putnam has been elected by the board of directors of the Dow Chemical Co. to the newly created position of executive vice-president. He has been a director since 1941 and a vice-president since 1942.

French Named Bristol Sales Mgr.

George N. French has become district sales manager of Bristol Laboratories Inc. for the states of North and South Carolina, according to Paul T. Rees, field sales manager.

Hutchins Named Edit. Consultant

Harold Hutchins, publisher of Drug & Cosmetic Newsletter, has been appointed editorial consultant of the Mid-Atlantic Pharmaceutical News-Review, according to James S. Talbott, publisher and editor of the new regional drug publication. Additional appointments include those of Phillip H. Van Itallie, editor of Pulse of Pharmacy (house organ of Wyeth, Inc.) as science editor; Irene La Fortune, beauty editor; Louis

HAROLD HUTCHINS

Stambovsky, contributing and new products editor; Victor H. Scales, photographic editor; and William P. Alexander, advertising director.

Headquarters for the Mid-Atlantic Publishing Co. have been established at 321 Market St., Camden, N.J., with publication offices at Fifth & Jersey Avenues, Gloucester City, N. J.

McNeil Appointments

John Kleis has been appointed a junior scientist and Dr. Joseph Sam, a senior scientist, in the department of organic chemistry, division of medical sciences, at McNeil Laboratories.

Dr. Donald S. Bartlett

Dr. Donald S. Bartlett, manager of the dental division of Abbott Laboratories, died of a heart ailment August 13 at his home in Waukegan, Ill. He was 57 years old. He had been associated with Abbott since 1933 and had also served as manager of professional relations until shortly before his death. He is survived by his wife, Edna H. Bartlett, one daughter, two grandchildren, two brothers, and a sister.

William H. Davis

William H. Davis, vice-president of Burroughs Wellcome & Co. (U.S.A.) Inc., died July 29 in White Plains, N.Y., at the age of 64. He had been associated with the company for the past forty years. Mr. Davis is survived by his wife, Cordelia E. Davis, and a daughter, Mrs. Peggie Davis Manby.

William N. Doushkess

William N. Doushkess, 57, director of the chemical development division of Strong Cobb & Co., died August 12 in Shaker Heights, Ohio. He began his career with the National Aniline Co., now a division of Allied Chemical & Dye Corp., and then went to the J. T. Baker Chemical Co. as director of technical development and technical sales service.

Mr. Doushkess later became manager of the chemical division of S. B. Penick & Co., leaving that concern to organize his own company, the Netcong Chemical Co., in New Jersey. He joined Strong Cobb as chemical development director last November.

Joseph E. Gursky

Joseph E. Gursky, a pharmacist for ten years for Eli Lilly & Co., died August 20 in Elizabeth, N. J. He was 37 years of age.

James J. Kelly, Jr.

James J. Kelly, Jr., manager of the American Home Products Corp., died August 22 at East Hampton, Conn., at the age of 48.

Mrs. Amelia Loynd

Mrs. Amelia Loynd, mother of Harry J. Loynd, president of Parke, Davis & Co. died in an Oakland, Calif., hospital August 18. For the past several years, she has lived with another son, Elvery, at Truckee, Calif. Three other sons also survive, Frank, secretary of the California Pine Box Co.; William, a San Francisco insurance man; and Walter, of Truckee, who operates six drug stores with Elvery Loynd.

Leonard Michael

Leonard Michael, one time assistant manager of the former equipment division of the American Can Co., who retired from the firm three years ago, died in New York on August 7 at the age of 68. He had been with the firm for 44 years, mostly in administrative capacities in the New York general offices. Although his work was primarily devoted to machinery and equipment matters, Mr. Michael acted as secretary of the firm's labor relations committee for four years.

He is survived by two sisters, Mrs. Harry Miller and Mrs. Sam Moore; and three brothers, Harry, Alex, and James Michael.

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A CLEANER FILL!

— and superior in many other ways, too!

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Revolutionary
ROTARY FILLER

PRESSURE
+
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500 *bottles a minute with ease* !

The last word in efficiency for filling liquids of a high or low viscosity. Constant level fill assured by ingenious balancing of pressure and vacuum. Either use the machine as a full vacuum filler or a full pressure filler by just the turn of a valve. Built in many sizes.

Patents Pending.

Completely automatic, semi-automatic, hand-fed equipment to clean, fill, close, convey jars, bottles, tins, collapsible tubes.

Filters ● Pumps

The Karl Kiefer Machine Co.

CINCINNATI, U. S. A.

NEW YORK—BOSTON—CHICAGO—BALTIMORE—SAN FRANCISCO—SAVANNAH—LOS ANGELES—LONDON, ENGLAND

Management Forum

by Francis Chilson
INDUSTRIAL CONSULTANT

Bulls 'N' Bears

It has always struck me very odd that so often the American business man seems like a timorous conservative at heart. When economic conditions are booming he makes loud noises about vision and boldness and two chickens for every pot. The world's his oyster and the sky's the limit. But let sales tighten up slightly; let the stock market slough off a little and he'll pull his head in quicker than a turpentined turtle. Then he begins to moan the blues and becomes as pessimistic as he was previously optimistic—or more so.

Remember a couple of years ago how everybody curtailed expansion programs simply because conditions in the trade tightened up a bit? Everything was headed for hell for sure. Now the people who abruptly cancelled new construction programs then are doing their damnedest to make up for lost time, and doing it under adverse conditions of scarcity and high cost and costlier delays. Right now a lot of people are talking about a business slow-up and if the talk becomes a little louder you'll see the bulls suddenly turn bears and begin to hibernate. Business men rarely seem to realize that they make their own slowups. Seldom do they realize that a time of recession is a time for a vigorous attack on all fronts with every weapon at their command.

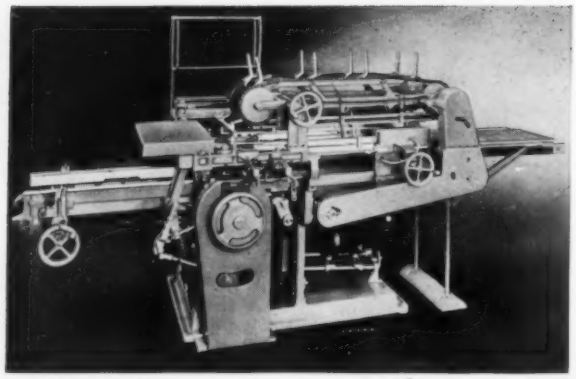
Recently I witnessed another typical example of this timorousness in the face of uncertainty when I sat in a board meeting which was discussing an appropriation for an expanded program of national advertising. Over the vigorous protest of the salesmanager who had a lot of factual data to support his views, the board voted "in view of uncertainties" not only to defer the program but also to reduce the amount already appropriated! I happen to know a lot about that business and if I had had the power to do it, I would have launched the program even if I had had to borrow money to finance it.

During the twenty-one years of my professional practice I have witnessed many such incidents. During the early years of the Depression I used to lunch very frequently with the president of a small drug outfit. According to him the country had gone to hell. The government was wicked beyond hope of recovery. Taxes were ruining everything and everybody. Now that man's business is fifteen times as big as it was then and he has become a multi-millionaire—in spite of taxes. Yet he still sings the same old refrain—only louder now that he has become a big shot in the industry.

At a meeting in 1936 I expressed the opinion that a particular company had every right to plan to double its business within a twenty year period. I was ridiculed by everyone present except the president, who was a keen student of economics and hadn't had enough experience in the drug business to know all the things that couldn't be done. That company, which up to 1936 had not paid a dividend in many years, has now been paying liberal dividends for several years and is enjoying a volume of business—not twice as great as it was in 1936—but five times as great.

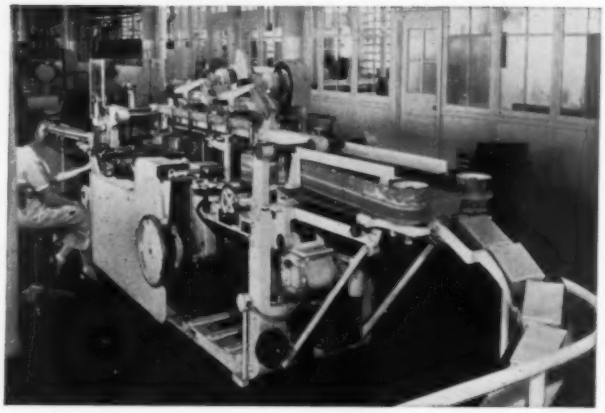
This magazine could be filled with similar instances in and out of our trade. Year after year corporations have been reporting the largest volume of sales and profits in their histories. Everywhere you go in the country the sounds of the riveting gun and the saw and the hammer are everywhere heard as houses and factories are built and farmlands turn into suburbs and suburbs into cities.

How could it be otherwise? The country is twenty million people larger than it was a decade ago and the Census Department recently reported an estimated increase of over three million in the past year! There is every reason to suppose that by 1980 we shall have a population of at least 180 million people. The market is people. People have money and are spending it. Our farmland is increasing in productivity and is being rapidly increased in extent by the addition of fertile areas recovered from western deserts by irrigation. The Grand Coulee dam alone will irrigate an area larger than many of our eastern states and the productivity



Model FA—quickly adjustable wrapping machine

TWO GREAT COST-REDUCERS



Model F-6 Bundling machine
. . . one of several models

Serving leading drug and cosmetic manufacturers

Neat, attractive wraps add to the appearance of a product and insure utmost protection.

Machine bundling replaces costly boxes—makes large savings.

These "PACKAGE" machines have won FIRST PLACE in the drug and cosmetic field because they are proven and dependable cost reducers.

The Model FA, now the most widely used machine of its kind, wraps individual items at a speed of up to 100 per minute. Quickly adjustable for various sizes, it can often take care of the entire output of a plant. Adaptable to plain or registered printed materials of all kinds. And like all "PACKAGE" machines, it's built to last—to give trouble-free service for years on end.

The Model F-6, one of several bundling machines in our line, wraps cartons in dozen or half-dozen lots, using strong Kraft paper. It can be supplied with an assembly unit which groups the cartons in the desired arrangement, and is adjustable for various sizes. Automatically applies printed end-seals. Replacing costly boxes or fibre containers, machine bundling makes remarkable savings in material costs—not to mention labor.

For the latest and finest in wrapping equipment—it's PACKAGE
Write our nearest office for further information

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

PACKAGE
MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

of this reclaimed land has proved itself to be from five to ten times the national average per acre. In the West industrial and governmental interests have made astonishing strides in developing rapid-growing, hybrid timber trees which will grow to full maturity within the span of a man's lifetime or less. Laboratories everywhere are turning out new products of every kind, for some of which new markets will have to be created, and they will be created because the increasing spread of education is everywhere creating an increasing demand for a higher standard of living.

As a foundation and as an opportunity what more could any business man want?

Many, perhaps the majority, of business managers are fully aware of this opportunity offered by our ever and increasingly great country, but they forget their individual part in building the opportunity the moment a shadow falls across the prospect. However, in fairness to the men managing business it must be admitted that their apparent cowardice in the face of uncertainty does not always reflect their personal attitudes so much as it reflects the attitudes of their boards of directors, which in too many instances are composed of reactionary bankers and retired—and therefore tired, very tired, if not already half dead—business men, who in too many instances have shot their bolt but still have their say.

Bankers usually are a pessimistic lot. This comes from the fact that they are always handling other people's money. By being over-pessimistic they actually harm their own clients as well as the country. When you see the name of the same banker or broker on ten or fifteen boards of directors you can appreciate how damn little they can contribute actually to each individual company.

As to the old, retired business men who so often are board chairmen it must be said that too frequently they act as brakes on the wheels of progress. In some cases they lack interest in new projects simply because they have made their pile and no longer wish to risk any of it. Yet risk is the soul of business. Sometimes they throw sand in the bearings because in their day affairs weren't done "that way." They can remember way back when the country was run on a "sensible basis"—say in Coolidge's time or McKinley's—when a dollar was a dollar and not forty cents, as they so frequently remind you.

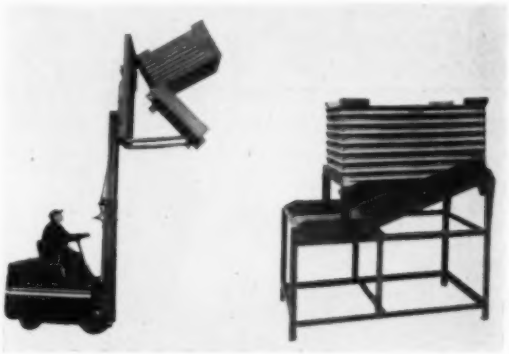
What these old ghosts want is the 1910 dollar and the 1950 profits. Especially if they can have all the profits. Without taxes of course.

We must have boards of directors but it's too bad they can't always be composed of active vigorous, successful business men under sixty who could at once control and stimulate instead of acting merely as a stifling influence.

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

Dump Box

One of the latest contributions to improved materials handling technique is a multi-duty, dump-bottom box developed by Union Metal and introduced to industry



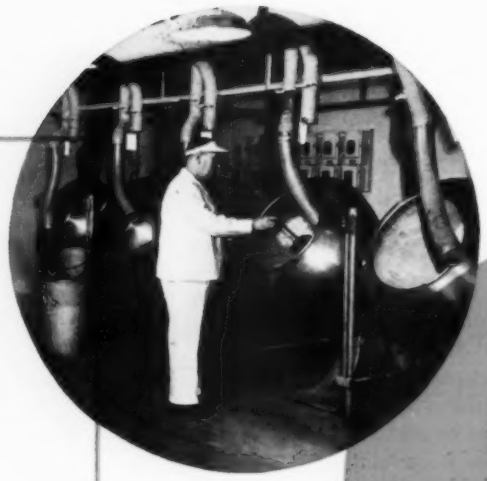
at the recent Materials Handling Exposition at Chicago where demonstrations of its unusual features aroused exceptional interest.

According to L. West Shea, Union Metal's Materials Handling Div. Manager, the new box—named the "Work-O-Matic"—goes beyond the utility of conventional type industrial boxes which are mostly limited to mass handling of materials and the tiering of them in unit loads. In addition to these functions, he explains, the new box permits "precision" dumping with virtually complete spillage control and, used in conjunction with his company's specially designed positioning stand, makes possible continuous availability of parts in process at their point of use and at convenient work level.

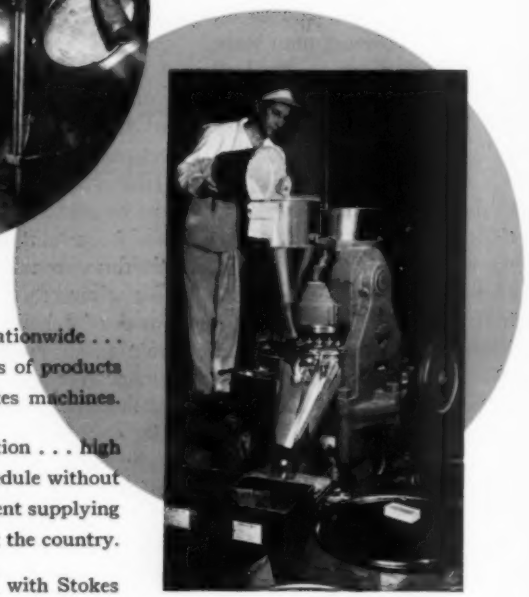
In the "Work-O-Matic" dumping operation, the load is discharged by raising the rear end of the box rather than lowering the lift truck forks. This enables the truck operator to discharge the load completely at precisely the height and location desired. This dumping is actuated by means of a hydraulic dumping attachment jointly developed by Union Metal and Clark Equipment Company engineers. The hydraulic mechanism can be applied to almost any hydraulically operated fork lift truck, it is reported.

As shown in the accompanying photograph, the new box, when teamed up with the positioning stand, discharges its load into a reservoir tray integral with the stand. Thus a working supply of parts remains during the interval involved in replacing the empty box with a full one. This replacement operation is simplified by the fact that the lift truck forks may be inserted from either side or the back of the box. When the box is placed on the stand, the box bottom descends, forming a discharge chute, as the truck forks are lowered.

Mr. Shea points out that in most analyses the non-productive time of machines and machine operators ranges from 40 per cent to 75 per cent—due largely to repeatedly interrupted flow of materials, awkward placement, down-time and similar handicaps. Thus his company's new product is designed to combine ordinary dump box functions with the alleviation of many of the conditions contributing to such non-productive time.



Where you see the Rexall sign . . . . and you see it nationwide . . . you see scores of products made on Stokes machines.



Low cost production . . . high quality products . . . speedy machines that carry a heavy schedule without failure . . . these are necessities for a manufacturing department supplying consumer goods to thousands of retail outlets throughout the country.

Rexall's big St. Louis plant is generously equipped with Stokes machines . . . numerous models of tabletting presses, coating pans and polishing heads, mixers and granulators, tube-filling, closing and sealing machines . . . on which a huge production of widely used Rexall products is maintained.

Not alone in Rexall plants, but all through the world Stokes machines are used in pharmaceutical laboratories for grinding, mixing, drying, slugging, tabletting, finishing, tube-filling, extracting, distilling, concentrating, of countless pharmaceutical products.

Ask Stokes for assistance on tablet formulae, punch and die design, improved procedures.

STOKES

STOKES MAKES
Plastics Molding Presses,
Industrial Tabletting
and Powder Metal Presses,
Pharmaceutical Equipment,
Vacuum Processing Equipment,
High Vacuum Pumps and Gages,
Special Machinery

F. J. STOKES MACHINE COMPANY, 5933 TABOR ROAD, PHILADELPHIA 49, PA

A new folder, No. MH-808, just published by Union Metal, shows the new multi-duty box in use and describes its operation in detail. Copies of the folder may be obtained by directing inquiries to The Union Metal Mfg. Co., Canton 5, Ohio.

Marforge Load-Veyors Speed

The William Filene Sons Co., of Boston, mails catalogs to tens of thousands of customers in all parts of this country and to many outside our borders. At certain seasons orders from these catalogs will mount to between 1500 and 2000 per day, and these must be filled with precision and promptness.

There are more than 600 items in the Filene catalog, including toys, perfumes, jewelry, men's, women's and children's clothing and furnishings. When these items are broken down into sizes and colors the number of individual units well exceeds 5,000.

In planning an efficient and economical method for handling this huge volume of business, Hugh Healy, Assistant Operating Superintendent of the company, with the cooperation of the Customer Service Division, decided to install Marforge Load-Veyors. As a result, the company's extensive mail order operation is now handled with a minimum of confusion and delay.

All customer orders are typed onto a salescheck form in a central typing office. They are sent to the Control Desk where they are scanned by a clerk. The merchandise bins are divided into five major sections, each one being designated by a color. The control clerk scans the order and determines the sections which have merchandise on the order. He then takes a tote box and clips colored clothes-pins to its side, each pin corresponding in color to a section of the bins which has merchandise on the order. The order itself is placed in the tote box which is then pushed along the Load-Veyor running by the bins.

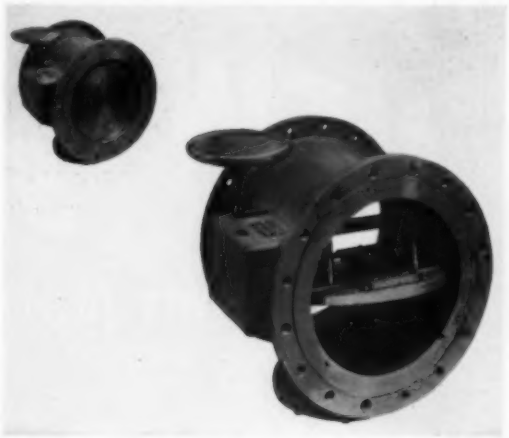
The order-filling clerk in the color-designated bins watches for a tote box with a clothespin attached corresponding to her section color. She pulls the box off the conveyor onto a table, fills the items called for in her section, removes the colored clothespin and pushes the box along the Load-Veyor. The box is successively picked off by order fillers at any other sections which correspond to the colored pins attached. It by-passes those sections which do not have clothespins attached.

The filled order moves along to the inspection area where it is checked for price and correct type of merchandise. It is then moved to the cashiering section where the correct amount of the sale is rung up on a register. The cashiers push the boxes down inclined Load-Veyors to the packing line where they are taken off by the packers. After an order is packed, it is put into a rolling hamper truck and the full truck is moved into a storage area. Three or four times a day the hampers are unloaded onto a belt conveyor which carries them to the shipping room, dropping them onto a sorting belt. As they move along this belt, they are sorted into various routes for delivery.

The net result of the installation has been a faster turnover of orders and a considerable increase in output per man hour.

High Vacuum Valve

The F. J. Stokes Machine Company has developed a new sixteen-inch high vacuum valve. The largest valve of its type, it is a hand wheel operated, butterfly type designed especially for all high vacuum service. Only a fraction of the size of corresponding rubber diaphragm



type valves, this new valve is both compact and easy to operate; the handwheel is connected to a worm gear drive which enables the operator to spin the handwheel after it is started. Only ten turns of the wheel are necessary to open and close the valve, and opening or closing requires only a few seconds. Safety of operation is promised by elimination of levers which might snap back, and the worm wheel action automatically locks the valve in any position when it is opened under vacuum.

This valve, like others in the Stokes 211 series, is designed for pressure differential in both directions. Positive seal is obtained through cam actuation of the valve disc. A full scale indicator shows the extent to which the valve is opened or closed. The valve is available in special metals for corrosive applications where standard metals are not sufficiently resistant to corrosive vapors.

These valves are manufactured by the F. J. Stokes Machine Company, Philadelphia 20, Pa.

Tandem Mounted Gyro-Centric Screens

The Patterson Foundry & Machine Company of East Liverpool, Ohio, announces manufacture of tandem mounted Gyro-centric Screen Units. This unique design, which features two Screens compactly assembled on a common support frame and driven by a single motor, eliminates virtually all vibration, permitting the screens to be installed in towers or in sections of buildings not rigidly supported. A single drive shaft powers the two eccentric drive heads so that the heads rotate in the same direction.

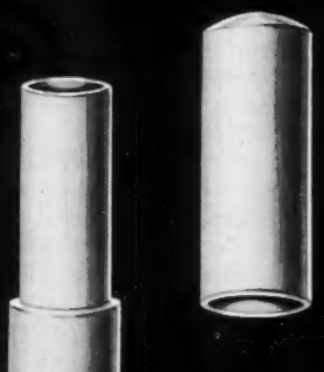
CALUMET

PRESENTS THE

NEW! Streamliner

THE ANSWER TO PLASTIC LIPSTICK CONTAINERS

NO LARGER THAN METAL
SWEATPROOF



AVAILABLE WITH .477
AND .500 CUPS

VELVET-SMOOTH SWIVEL ACTION

CALUMET MANUFACTURING CO., INC.

565 Fifth Avenue

Sam Schwartzman
President.

NEW YORK (17), N.Y.
MUrray Hill 8-4270

The large production sized unit shown here, as well as smaller units, doubles the production of the same clean, accurate separations obtained by individual Patterson screens. Gyro-centric units are used for screening soya bean meal and other vegetable meals, dairy products, soap powders, sawdust, metal powders, and many more materials.

Write to The Patterson Company for further information.

Packaged Boiler

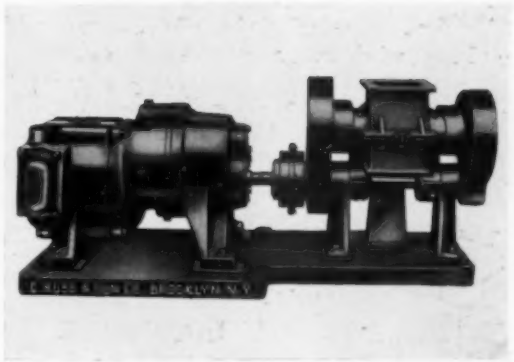
Introduction of the TICOSTEAM Generator—a packaged steam power plant—to a broad field of paplications is announced by Titusville Iron Works Company, of Titusville, Pa.

The manufacturer states that the Ticosteam Generator is a completely assembled unit—finished, tested, and certified at the factory. Operation is fully automatic, with all controls contained in a single push-button-controlled station. Mounted on a steel skid, the Ticosteam Generator may be installed on level and solid floors without foundation construction. When service connections are made to fuel, water, steam and electrical supplies, the Ticosteam Generator is ready for operation. No stack is required; a vent through the roof is sufficient.

Available in a full range of sizes, Ticosteam Generators are designed for light oil and combination light oil and gas—heavy oil and combination heavy oil and gas—and for straight gas operation. Maximum flame efficiency and smokeless operation are assured under all firing conditions by fully automatic devices maintaining an intimate mixture of air and fuel. Economy of operation is upheld by high combustion efficiency of 80 per cent plus and thermal efficiency of not less than 80 per cent for oil firing and 75 per cent for gas firing.

Complete safety in operation has been a major consideration throughout the years of intensive development preceding introduction of the Ticosteam Generator, the manufacturer relates. Representative safety features include a Fireye combustion control head with alarm provision; thorough purge before ignition, and also after combustion; dual low water cut-off; interlocking safety switches on pilot and main gas lines; motorized main gas valve; high pressure gas regulator; and gas electric ignition. All safety features are designed, in case of power breakdown, to fail in a safe position. With a minimum heating surface of 5 sq. ft. per boiler horsepower, the Ticosteam Generator is exceptionally quiet in operation, and is listed by Underwriters Laboratories, Inc. The unit's power and heat applications include factories, hospitals, apartments, office buildings, etc.—wherever a compact, dependable, easily installed and highly efficient steam generator is desired.

Descriptive literature on the new Ticosteam Generator is available upon request to this publication or direct to the Titusville Iron Works Company, Titusville, Pa. Ask for Bulletin No. B-3100.



New One-Pint Kneader

The newest—and smallest—addition, in one-pint size, has been added to the line of kneading and mixing machines manufactured by the Charles Ross & Son Company of Brooklyn, N. Y.

This improved model, the #41 Steam Jacketed Heavy Duty One-Pint Kneader and Mixer, is the companion to a series of kneading machines ranging in size up to 150 gallons. The #41, in addition to one pint, is also available in one-quart size. In either size, it is designed to answer the need for a pilot model for laboratory use and for running test batches.

Direct motor driven with a ½Hp. motor, the #41 Kneader has a steam-jacketed trough which permits cooling or heating of the material and is built in two sections for easy dismantling for cleaning.

The stirrers are of the "sigma" type for a more rapid mix with good shearing action and dispersion of materials, and are easily detached for cleaning.

The unit is easily hand-tilted by a balanced arrangement for quick discharge of the material. Cut steel gears are used throughout for quiet, efficient operation.

The Kneaders may be furnished with either cast iron or stainless steel construction. Special covers, other-type stirrers and two-speed motors are additional optional features.

Thermo-Regulators and Thermostats—Catalog

Completely illustrated with photographs and cut-away drawings, this 12-page Catalog (No. 18) provides a useful aid to those interested in precise and reliable temperature control and regulation. H-B Thermo-Regulators and Thermostats may be selected according to accuracy requirements from plus or minus 0.0005°F to plus or minus 0.10°F. The equipment described includes advanced design Quick-Set and Red-Top Thermo-Regulators, and the H-B Multi-Contact Thermo-Regulators with 3 to 14 operating contacts as well as more simple types. The range extremities are minus 35°F. to 350°F.

The H-B No. 18 Catalog is planned to aid engineers and technicians select the most suitable equipment for temperature control work. For your free copy, write to the H-B Instrument Company, Dept. TR, 2633 Trenton Avenue, Philadelphia 25, Pa.

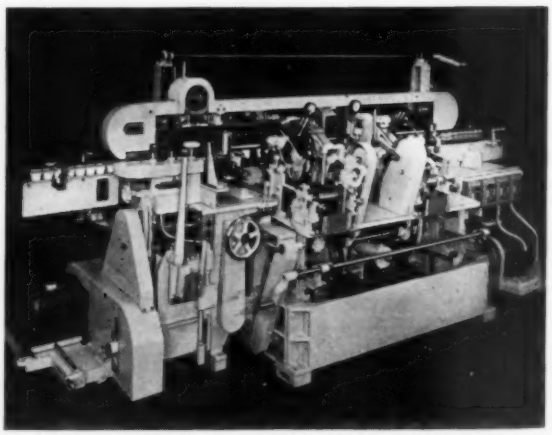
LABELING!

BETTER – because it's done in one motion!

A NEW HIGH in precision labeling is now achieved on Pneumatic Direc-Transfer machines.

No picker plates or gripper fingers are used in transferring the individual labels from stack to container. They are fed and controlled entirely by air suction pads. Each label receives a uniformly thin coating of adhesive, and is given ample time for moisture to penetrate and "temper" the paper stock. Result is exact registration and complete adhesion of label.

Direc-Transfer labeling therefore, *means better bottling* for producers of drugs, liquor, foods, and cosmetics to mention only a few general classifications. Write for Bulletin 116 which illustrates three available models.



Pneumatic's 4-Inch Duplex Direc-Transfer Labeling Machine

★ ★ ★

PNEUMATIC SCALE CORP., LTD., 70 Newport Avenue, Quincy 71, Massachusetts. *Also: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*

PNEUMATIC

PACKAGING AND BOTTLING MACHINERY

Narrow Aisle Fork Truck

The Materials Handling Division of the Market Forge Company of Everett, Mass., announces the addition of a fork truck to its line of rider-driven, self-propelled materials handling units. The line already contains an electric tractor, an electric freight or load-carrying truck, and a truck for lifting and transporting all types of skid platforms.

The new fork truck was especially developed to meet the needs of small and medium-sized plants, and incorporates these features:

It is light in weight; is small in over-all dimension (the smallest standard fork truck on the market); provides maximum visibility for the operator; permits stacking in freight cars and motor trucks; is safe and easy to maneuver in narrow aisles; requires little maintenance.

Efficient engineering has placed all weighty parts in positions to obtain maximum counterbalance with loads. The 500-lb. storage battery, for instance, is located as far from the fulcrum wheels (the wheels adjacent to the mast unit) as possible. The power drive unit, consisting of an electric motor, the transmission and a heavy drive wheel, is also located at a maximum distance from the fulcrum point. Further, the complete telescopic mast unit is located as far away as possible from the fulcrum wheels, thus avoiding the neutralizing effect that would result from placement directly over the wheels.

The driver himself is advantageously seated at a distance to provide even further counterbalancing.

The separate motor pump arrangement for lifting is also ideally placed for counterbalance efficiency.

Dispersator

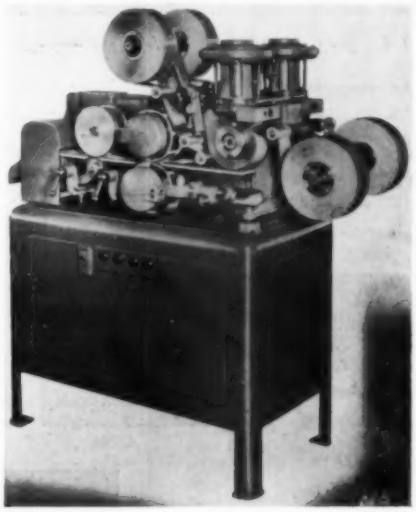
A new and revolutionary mixing device, the Simplex Dispersator, is now being manufactured by the Premier Mill Corporation of Geneva, New York. Designed for processing operations where propellers are generally ineffective, the Dispersator can be used for speedy emulsification, dispersion and intimate mixing. Tests have demonstrated that the Dispersator achieves satisfactory results in a fraction of the time needed for other types of high-speed agitators or mixers. Operations tested are: building up of emulsions and dispersions, acceleration of chemical reactions, prevention of settling out, speed-up in preparation of solutions, and for many processes involving intimate mixing and agitation.

The Premier Dispersator is specially designed to produce maximum turbulence and contact between various products, whether they be liquid/liquid, liquid/solid or liquid/gas.

The Dispersator consists of a cylinder rotating at high speed. The centrifugal force resulting from this high-speed rotation forces the product outwards through narrow slots in the wall of the cylinder under considerable pressure. The effect is two-fold. First, the product is sheared at high speed as it passes through the slots; second, the columns of liquid emerging from the slots are further sheared in coming into contact with the slower moving mass of liquid in the mixing vessel.

New Envelope Packaging Machine

Production of the new "Uni-pak" has been announced by the Sperry Corporation, E. G. Staude Division, 2673-H University Avenue, St. Paul 4, Minn. It has several outstanding features as stated by Paul E. Fischer, head of research and engineering. Recently chief of the mechanical engineering research department of General Mills, Fischer rejoined the Sperry organization the latter part of last year.



As illustrated, the Uni-pak will accurately meter powdered material into individual envelopes at high speed. It heat-seals materials such as cellophane, foil, paper or fibreless cotton film. A continuous strip of envelope material unreels from two rolls. It is particularly applicable to powdered milk, instant coffee, chocolate and other drug and beverage powders, because the proper amount for a single cup or glass is scientifically measured. The machine can make two sizes of envelopes at a time—one on each of two production lines.

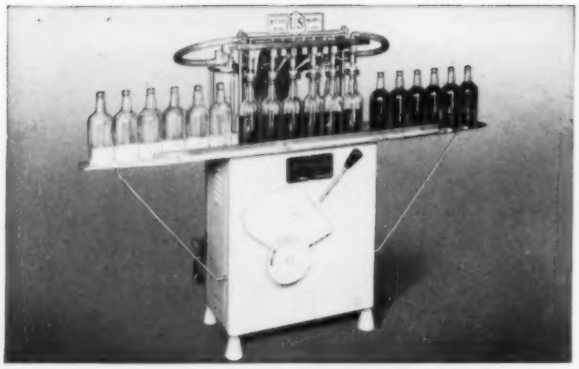
The Uni-park is completely automatic. It operates on 220V, 60-cycle, single phase, ⅓ HP motor. The floor size is 2′ x 4′.

Freeze-Drying Package Unit

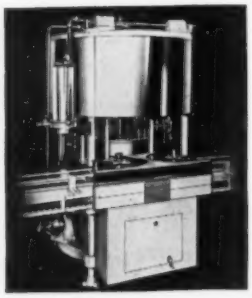
A compact, factory-assembled freeze-drying unit, the Stokes Model 203F, has been announced by the F. J. Stokes Machine Company. It employs Freon refrigeration for drying guinea pig complement, cultures, serums, vitamins, and other biologicals.

Drying and freezing are accomplished in a tank beside the condensing chamber, on an electrically heated and thermostatically controlled drying shelf. Sight glass in lid permits inspection during freezing.

With batch capacity of 3500 milliliters, this unit offers large volumetric capacity at lowest operating cost. Further information is available from the manufacturer, the F. J. Stokes Machine Company of Philadelphia 20, Pa.

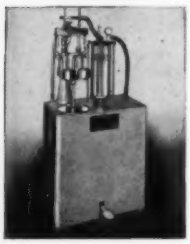


The Most Automatic One Man Filler. Write for Model B-49 Bulletin



One of 6 Rotary Fillers for high speed production lines. Write for Rotary Filler Bulletin.

Continous Filling of 2 Containers at a time. Write for B-2 Bulletin.



Improved Siphon Filler Write for Bulletin

Keep Ahead of RISING PACKAGING COSTS

Perhaps some advancements in time, labor or cost can be built into your operations . . . perhaps equipment you've written off years ago is sapping more profit than what today's advancements would cost.

To keep ahead of rising costs, invite a U. S. engineer to analyze your packaging operations; it will imply no obligation whatsoever. Then, you weigh the facts, your way.

Write for Bulletins
on any equipment for packaging liquids or semi-liquids

U. S. BOTTLERS MACHINERY CO.

4013 NORTH ROCKWELL STREET CHICAGO 18, ILLINOIS

OFFICES: Boston—Dallas—Houston—Denver—Los Angeles—New York—Phoenix—Portland—San Francisco—Seattle—Tampa—Montreal—Toronto—Vancouver—Winnipeg—New Orleans and Philadelphia

EXPORT OFFICE: Toledo, Ohio

An excellent example of consumer package check-weighing with high speed EXACT WEIGHT Scales.

Spend Weighing Equipment Dollars Wisely . . .

The facts are that practically everything made uses scales . . . weighing equipment of some nature. Such operations as ingredient compounding, laboratory work, blending, packaging and production line check-weighing are the most common in the drug and cosmetic industry. Many drugs and cosmetics owe their exceptional uniformity and accuracy to good scales. Engineers entrusted with profitable production now generally agree the weighing element is one of the most vital cost control measures at their disposal. This is why weighing equipment dollars should be wisely spent. Few individual equipment requirements do more to improve uniformity and quality than the right weighing units in the right place, and no weighing equipment is better than EXACT WEIGHT Scales. Today these famous industrial scales are doing more varied jobs, in more plants, in manual, semi-automatic and fully automatic operations than ever before. Their capacity to save time, money, product and labor are thoroughly recognized by men responsible for profitable volume production everywhere. Write or call us about your job.

"Sales and Service from coast to coast"

EXACT WEIGHT SCALES

Industrial Precision

THE EXACT WEIGHT SCALE COMPANY

935 West Fifth Avenue, Columbus 8, Ohio

2920 Bloor St., W. Toronto 18, Canada

sure protection for your "one shot" package

ALCOA
GOLDY CLOSURES

FORMERLY SOLD AS ALSECO SEALS

CAN WE HELP YOU WITH **DEFENSE CONTRACT PACKAGING?**

We have equipment and experience for producing metal containers and components for defense packaging. Write for information and quotations or call your nearby Alcoa Sales Office.

BEFORE APPLICATION

AFTER APPLICATION

Your product is hermetically sealed by an Alcoa Goldy Closure. Once opened, it can't be re-used, because the Goldy seal must be destroyed before the contents can be reached.

For protection of many, many products—liquor miniatures, fountain-pen refills, volatile fluids, delicate meteorological elements—more and more manufacturers depend upon Alcoa Goldy Closures.

Because rearmament needs come first, the supply of aluminum for closures is limited. For information on availability, please call your local Alcoa sales office, listed under "aluminum" in your classified telephone directory. Or write ALUMINUM COMPANY OF AMERICA, 1702J Gulf Building, Pittsburgh 19, Pennsylvania.

ALUMINUM COMPANY OF AMERICA • PITTSBURGH 19, PENNSYLVANIA

1 NEW BENCH-TYPE TABLET PRESS: No. 301 Single Punch, hand or motor operated, for experimental, private formula or limited production work. 87 tablets a minute, uniformly perfect, max. dia. ½", max. depth 7/16".

2 NEW No. 635 MIXER: Direct geared head 3 H. P. motor drive. 35 gal. capacity stainless steel tilting tank 17" wide x 20" high x 28" long. Agitator speed 30 r.p.m. Hinged cover. Rails and tray optional and extra.

3 NEW No. 420 COMBINATION CLOSER AND CRIMPER: Capacity per minute, 40 to 45 tubes up to 1½" dia. and adjustable for length from 2" up to 7".

4 NEW COATING AND POLISHING STANDS: No. 6 for pans up to 30"; No. 16 for pans over 30". Direct geared head motor drive; no belts, no slippage. Shaft mounted with cutboard bearings (double bearing area on No. 16).

5 NEW COLTON DRYING OVEN: No. 2030; 20 trays, 30" x 30" x 1". Electric, gas, steam. Double steel shell, full 3" insulation cuts drying time up to 50%. Also new laboratory and truck models.

Arthur Colton Company

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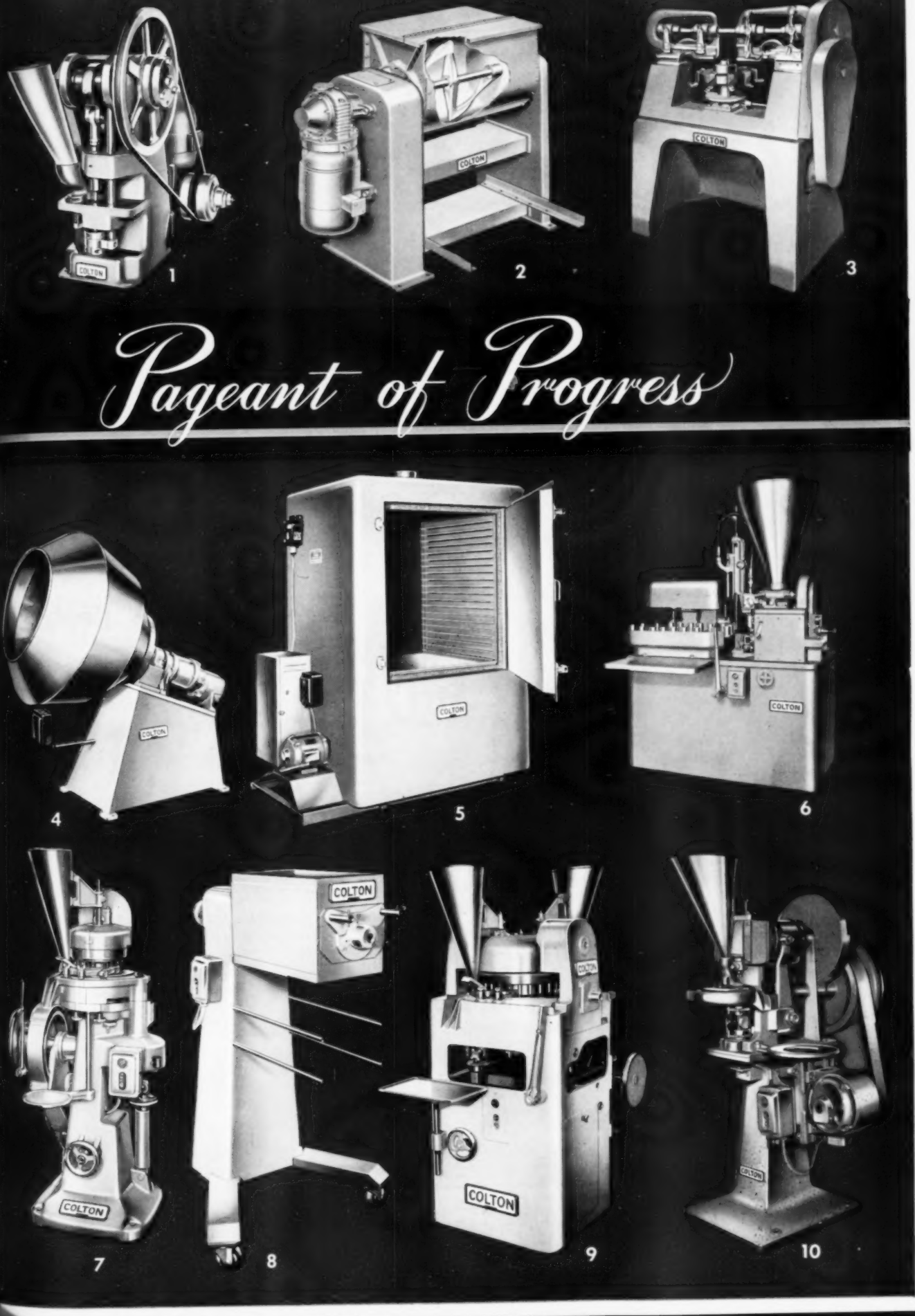
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Patent Thoughts and Trends

*by Thomas Cifelli, Jr.**
PATENT ATTORNEY

A Review of U. S. Patents on Hair Waving

The recent court vindication of Dr. Everett G. McDonough's basic "cold wave" invention has stimulated considerable interest in the already active hair waving field. This, coupled with the reception accorded previous patent reviews in these columns, pointed naturally to a review of U. S. patents dealing with the hair waving art.

Accordingly, the present article will deal exclusively with such a review. All of the patents classified by the U. S. Patent Office in class 167-87.1 will be considered here. As stated every time prior reviews have been made, the limitation of this review should be kept in mind. No guarantee can be made that it is exhaustive. It may well be the case that the U. S. Patent Office has in fact issued many patents affecting the hair waving art not classified in 167-87.1. Nevertheless, a review such as this should prove helpful to those interested in making a survey of the hair waving patent art in this country.

As stated before several times, since U. S. patents which have been issued for more than 17 years no longer serve as legal monopolies, there is no point here in considering their claim coverage. However, as regards unexpired U. S. patents an indication of the amount of protection will be given.

Expired U. S. Patents

U. S. 54,115—issued April 24, 1866 to Richard Clark.

To those who may have assumed that the 20th century saw the birth of the idea of curling the hair of women, it may come as something of a shock to learn that as far back as 1866 the U. S. Patent Office issued a patent to one, Richard Clark, for a hair-curling fluid. He took four ounces of water, 2 ounces of alcohol and mixed them toegether, and then added one ounce of the extract of box-wood, mixed the contents and boiled the whole business down to four ounces.

It is perhaps not so surprising that Clark's invention apparently did not revolutionize milady's habits.

U. S. 116,215—issued June 20, 1871 to Emogene L. Parsons.

One is tempted to surmise that Mrs. Parsons probably tried Clark's goo but was not as impressed with the actual results as Clark's claims might have led her to believe. Consequently, she devised the idea of steeping an ounce of Japan tea and adding the product to four quarts of clear water and then adding any suitable perfume.

U. S. 1,064,901—issued June 17, 1913 to Thomas Grosert and assigned to Ernst Unger.

For more than forty years Mrs. Parsons' patent stood unchallenged until Grosert entered the picture. While he was not as strong as either Clark or Mrs. Parsons in romantic imagination Grosert made up in part for this lack with a little scientific knowledge. His composition for waving hair comprised sodium tetraborate (48 parts), sodium hyposulfite (3 parts) and water (17 parts).

U. S. 1,607,981—issued November 23, 1926 to William A. Groff.

Groff proposed a solution for the treatment of fabric which is afterwards employed in the permanent waving of hair. His composition comprised potassium carbonate, lime and borax in solution in water.

U. S. 1,682,230—issued August 28, 1928 to Marleta M. McDaneld and assigned to Essie M. Hereford.

This patent suggests the use of a composition comprising borax, sodium bicarbonate, starch and linseed oil, all mixed with water as a permanent wave lotion.

U. S. 1,668,608—issued May 8, 1928 to Ernest O. Schnell.

Schnell recognized the destructive action of excessive heat as well as the chemical action of the ingredients of known hair waving compositions and suggested a composition consisting of an emulsified oil, mixed with a salt which when dissolved in water shows a weak alkaline reaction, and a filler, the composition being initially prepared in a highly plastic paste form. Schnell suggests the preparation of an emulsion of olive oil, bentonite and water, agitating the emulsion to a creamy consistency, adding an alkaline salt to the emulsion and sufficient fine silica to reduce the mixture to a pasty consistency capable of being divided into thin water form.

U. S. 1,933,021—issued October 31, 1933 to Frederic Maeder and Brian M. W. and assigned to Frederic Maeder.

These inventors suggest the use of keratin in combination with a solvent or vehicle such as an aqueous solution of ammonia and alcohol.

Unexpired U. S. Patents

U. S. 2,056,135—issued Sept. 29, 1936 to Edward A. Butler and assigned to La Fain, Inc.

Butler tackled the problem of hair waving by suggesting the use of gelatin in order to provide a transparent and resilient but durable and permanent sheath about each individual strand of hair. These casings, having been deposited and formed upon each strand of hair while the strands are positioned in the shapes desired for them, are set to retain their resiliency.

In order to prevent the gelatin from becoming moldy a preservative such as sodium benzoate and solvents such as acetic acid are employed.

Claim 3 indicates the scope of protection.

> A preparation for use in waving hair comprising water, gelatin, a gelatin preservative, and a solvent for the gelatin adapted to prevent precipitation of gelatin out of solution in the presence of preservatives.

U. S. 2,095,374—issued Oct. 12, 1937 to Paul R. Steinbach and assigned to The Realistic Permanent Wave Machine Co.

Steinbach suggests the buffering of alkalies by using a mixture of strong and weak alkalies as hair waving agents.

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Specifically he suggests a composition consisting of 70 parts of potassium sulphite and 30 parts of ammonium carbonate.

Claim 5 is illustrative.

A composition of matter for production of a hair waving solution including a salt of sulphurous acid, and a salt of a weaker acid in such proportions that in solution the mixture is effectively substantially neutral.

U. S. 2,154,924—issued April 18, 1939 to A. L. Wilson and Henri Morin, and assigned to Carbide and Carbon Chemicals.

Materials such as weakly adhesive thickeners, oils or fats, hygroscopic materials and emulsifying agents are used as modifiers of hair waving agents such as morpholine and the addition- and substitution-products of morpholine which are water soluble and basic in character.

Claim 2 gives an idea of the protection obtained.

A hair waving preparation which comprises an aqueous composition essentially containing from about 3 per cent to about 30 per cent of morpholine together with an oil.

U. S. 2,207,241—issued July 9, 1940 to Gifford D. Davis and assigned to National Oil Products.

Davis directs his attention here not so much to the preparation of novel hair waving compositions but to the improvement of existing ones in order to minimize or prevent the burning or over-steaming of hair during the waving, inhibit the usual dryness resulting from the permanent waving of hair, and improve the waving response. Davis' idea is to add to any known solution of the alkaline or other suitable type a composition comprising a soap, a degraded glyceride and an organic solvent with or without a relatively small proportion of a triglyceride.

Claim 1 indicates the protection obtained.

A composition adapted for use in the waving or curling of hair with an alkaline hair softening agent, said composition comprising a water soluble soap, a degraded glyceride of a higher fatty acid and an inert organic solvent of the hydroxyether type.

U. S. 2,310,687—issued Feb. 9, 1943 to George Friedman and A. R. Goldfarb and assigned to Lawrence R. Bruce.

This patent discloses use of hair waving compositions comprising an alkali sulphite, an adsorbent, a dispersing agent and a supporting colloid. By adsorbent materials are meant substances such as lauryl alcohol and its higher homologues. Lanolin is illustrative of a dispersing agent. Wheat starch and vegetable gums are representative of supporting colloids.

Claim 1 follows:

A preparation for the permanent waving of hair, stable over normal climatic ranges, and providing on application of heat, the formation of a protective and porous coating on the hair permitting the penetration of steam and the vapor of a hair waving principal, while maintaining in the hair the natural oil and moisture thereof, comprising a homogeneous emulsion ranging in viscosity from free-flowing to paste conformation and containing a fatty alcohol adsorbent medium having more than twelve carbon atoms, a fatty ester dispersing agent, a sulphite waving principal, and a hydrolizable supporting colloid therefor.

U. S. 2,350,178—issued May 30, 1944 to Harry Martin and assigned to Martin Laboratories.

The use of hydroxylamine sulfate as a cold hair waving agent is here disclosed. Martin also suggests the use of thioglycolic acid as an accelerator.

The rather limited protection obtained by Martin is shown by the following claim which is the only one in the patent:

The process of curling hair which consists in treating the rolled-up hair with a solution containing hydroxylamine sulfate, and an alkaline substance.

U. S. 2,389,755—issued Nov. 27, 1945 to George S. Baker.

Baker suggests as a cold waving preparation a composition comprising an aqueous solution containing an alkali metal hydroxide, an alkali metal thiocyanate and an alkali metal sulphite or bi-sulphite. The ammonium salts are preferred, for example ammonium hydroxide, ammonium thiocyanate and ammonium sulphite being specifically suggested.

In order to provide a tighter curl agents such as monochloracetic acid or thioglycollic acid are suggested.

Claim 1 shows the broad protection obtained.

A permanent wave liquid which comprises an aqueous solution containing an alkali metal hydroxide, an alkali metal thiocyanate, and an alkali metal sulphite.

U. S. 2,400,377—issued May 14, 1946 to John B. Speakman and assigned to Perm Ltd.

In order to adapt a bisulphite hair waving solution to cold waving conditions Speakman, the English inventor, suggests the use of a substantial quantity of water soluble alcohol along with the bisulphite in order to reduce ionization of the salt and increase swelling. Ethyl alcohol, glycerol, and ethylene glycol are examples of alcohols.

Claim 3 shows the protection.

A composition of matter for the treatment of keratin containing fibers comprising a solution of a reducing agent of the group consisting of bisulphites and compounds capable of yielding bisulphites in water and an alcohol at about pH 4, the alcohol being present in quantities ranging from 10 to 45 per cent by weight of the solution.

U. S. 2,410,248—issued Oct. 29, 1946 to John B. Speakman and assigned to Perm Ltd.

In this patent also directed to cold waving of hair, Speakman proposes the use of an acid sulphite solution at or about pH 6 at a temperature of from 50°-70°C. whereby the disulfide or cystine bond of keratin is disrupted and further linkages represented by R-SNH-R are formed simultaneously in or between the fiber molecules.

Claim 1 indicates the protection.

Method of imparting a permanent set to hair, which comprises treating the hair with a sulphite solution at about pH 6 and a temperature of from 50° to 70° C. while maintaining the hair in the form which it is desired to render permanent.

U. S. 2,418,664—issued April 8, 1947 to Harry R. Ramsey.

The inventor's idea here is to provide a cold waving composition comprising a base including an acid stabilized emulsifying agent, such as glyceryl monostearate, either alone or modified with a sulphated oil, and a hair softening solution having the active hair-softening chemicals, the latter solution being properly compounded or mixed with the base in the formation of a smooth stable paste-like cream.

Claim 1 illustrates the composition and protection obtained.

A hair treating paste adapted for operation at room temperature and comprising:

	Per Cent by Weight
Emulsifier containing approximately 90% polyglycol monostearate and approximately 10% stearyl amide	**21.34**
Sodium hydroxide	**.88**
Thioglycolic acid (38% aq. soln.)	**13.04**
Ammonia (26% aq. soln.)	**1.85**
Ammonium sulphite	**1.00**
Sodium lauryl sulphate	**.03**
Water	**61.86**

U. S. 2,464,280—issued March 15, 1949 to R. E. Reed et al and assigned to Raymond Laboratories.

Stable cream cold waving compositions are made by using sulfated aromatic ether alcohols in the form of aryloxy polyalkylene ether sulfonates.

Claim 1 is illustrative.

A cream hair treating composition for use in hair molding processes comprising a keratin reducing agent dissolved in an aqueous medium containing an aryloxy polyalkylene ether sulfonate, said composition being opaque and milky in appearance and having a higher viscosity than that of an aqueous solution of said reducing agent of the same concentration containing none of said sulfonate.

(*Continued on page 414*)

SULFAMETHAZINE

Leading 3rd Sulfa for Mixtures

Mixed sulfas have gained very wide acceptance as the standard form of sulfa drug therapy and, currently, combinations of mixed sulfas and penicillin give promise of great utility. Sulfadiazine and Sulfamerazine, the undisputed standards of comparison for sulfa drugs, are invariably present. Sulfamethazine—closely related to Sulfadiazine and Sulfamerazine—has deservedly become the most prominent third component in mixed sulfa products.

No sulfa drug should be used in mixed products which cannot meet the highest standards of therapeutic effectiveness against the acute respiratory and systemic infections when used alone. Sulfamethazine meets this requirement on the basis of its extensive record of effective and safe use in such infections.

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Animal Health

Cobalt Deficiency

According to a report in *Veterinary Record* (46:64, 1951) much experimental work has revealed, at least partially, the role of cobalt in ruminant nutrition. This mineral, though required in only minute quantities, is essential for proper metabolism of certain microorganisms involved in the processes of rumen digestion and the synthesis of vitamins. Cobalt deficiency is most common in the winter and early spring months. Normally, young, fast growing stock and heavy producers are affected first by deficiencies in the rations. Symptoms include, first of all, anorexia. Animals refuse concentrate feed for hay and roughage. As the deficiency progresses symptoms of depraved appetite are observed; animals lick or chew at anything within reach. Rapid loss of weight is recorded, with anemia and weakness, and in lactating cows, milk secretion eventually ceases.

Also pertinent are experiments conducted at the North Dakota Agricultural Experiment Station which disprove the belief that simple-stomached animals such as the pig could not utilize elemental cobalt. W. E. Dinusson and his associates (*Bimonthly Bull.* 13:146, 1951) have found that additions of small amounts of cobalt (about 885 micrograms per pound of feed) as cobalt chloride or cobalt carbonate, to rations formulated from locally grown grains increased the rate of gain of growing-fattening pigs by 0.1 to 0.2 pounds per day.

They also observed that additions of vitamin B_{12} to simple all-plant rations, such as corn, soybean oil meal, and minerals for swine significantly increased the rate of gain. However, additions of 15 milligrams of streptomycin per pound of feed did not significantly increase gains of swine which were healthy and maintained under strict sanitation.

Mastitis Control Program

At the Conference for Veterinarians held at Ohio State University during June, 1951, E. W. Tucker reported some of his observations on environmental and treatment factors in mastitis control. He pointed out that in the operation of a statewide mastitis control program, such as is being carried out in New York, many different conditions arise which must be solved individually. Correction of faulty environment aids in preventing clinical mastitis and infection, but does not alter the existing pathogen residual in the udder. Recommendations for quarter treatments are made, when necessary, following each survey, and recheck examinations indicate as to the success or failure of the therapy. It has been observed that competent treatments without also using preventive measures against reinfection are of but temporary benefit to the herd status.

Tucker stated that as a result of information accumulated through the mastitis control program, and clinical use by hundreds of New York State practitioners, the most effective and popular preparation for routine quarter therapy consists of either 100,000 or 200,000 units of crystalline penicillin G (not procaine) and ⅛ Gm. dihydrostreptomycin in 20 cc. of a neutral pH inhibitory vehicle. He also noted that certain udder infections are resistant to common anitbiotics and, apparently, are even introduced into quarters at the time of treatment for some other pathogen. Quarter infusion is a surgical procedure and extreme aseptic care should be constantly exercised when treating.

Carotene and Vitamin A Stability in Dry Mixtures

The investigations carried out by M. E. Wall and E. G. Kelley (*Ind. & Eng. Chem.* 43:1146, 1951) were designed to study the factors affecting the stability of carotene and vitamin A in dry mixtures. They found that the following factors play an important role in the stability of dry carotene of vitamin A mixtures:

Temperature. Decreasing storage temperature increased stability.

Concentration. A 100-fold increase in concentration from 3000 to 300,000 I.U. per pound resulted in marked increase in stability.

Carrier. The effects of this factor were often obscured by other variables. Extracted soybean meal afforded highest stability; extracted broccoli leaf meal was excellent for carotene but poor for vitamin A; chick mash was inferior.

Vitamin Source. Effects of this factor were often overshadowed by the other environmental conditions. When a stable carrier was used, there were no significant differences between the vitamin A and carotene preparations at the 3000 I.U. level. At 300,000 I.U., the molecularly distilled carotene from broccoli showed a marked increase in stability over corresponding vitamin A or undistilled carotene preparations. The distilled carotene consists largely of neo-β-carotene isomers. The carotene thus prepared has been shown to have full biological potency for poultry.

According to Wall and Kelley, these findings show that feed mixers can prepare relatively stable dry mixtures of high vitamin A potency by using a proper combination of temperature, concentration, carrier, and vitamin source.

Atomized Vaccine for Newcastle Disease

Since the development of the intranasal vaccine for prevention of Newcastle disease of fowls considerable work has been done to learn more about the B_1 virus and to test atomization as a method of administering the vaccine. First attempts at vaccination by atomization with this vaccine were not very successful. In retesting this method, E. P. Johnson and W. B. Gross (*Vet. Med.* 46:55, 1951) carried out 13 separate experiments with groups of chicks from 24 to 48 hours old to determine the safety of atomization and nebulization with vaccine made from the B_1 Newcastle disease virus, which is of low virulence. The groups of chicks ranged in numbers from eight to 2,850. These experiments provided evidence that the vaccine can be administered to day-old chicks by either atomization or nebulization without producing any losses attributable to these methods of administration. Moreover, the immunity produced seems to be just as solid as that produced by this vaccine when given by the intranasal-drop method. Since it was shown in at least two experiments

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that an occasional chick may escape successful vaccination, especially if chicks are crowded in too small a box, it must not be assumed that this type of vaccinating can be done haphazardly. If carefully done, it appears that it can be performed safely and with a considerable saving in time and labor of handling the chicks.

Oral Penicillin Plus Sulfas for Small Animals

After considering the published data, D. S. Dimmerling and G. Cronheim (*N. Am. Vet.* 32:404, 1951) felt that a mixture of penicillin and sulfonamides could be useful in the treatment of infections in small animals. Such a combination might provide a synergistic action, afford greater efficacy in cases of mixed infections, and help to overcome fastness of organisms to either one of these agents. It was desired that both drugs be administered together, preferably by mouth.

A suspension of two sulfonamides in an aqueous base, with sodium citrate and sodium lactate as systemic alkalizers, seemed to be particularly useful for mixing with penicillin for oral administration. Such a mixture combines the principle of dual sulfonamide therapy with adequate alkalinization of the urine to prevent almost complete kidney damage from the sulfa drugs. At the same time, the buffer capacity of the sodium salts used prevents effectively the destruction of penicillin in the gastro-intestinal tract, thereby resulting in satisfactory penicillin blood levels. The preparation which was used in their study consisted of the following in an aqueous suspension base containing vegetable gums:

Sulfadiazine (microcrystalline)	**5 per cent**
Sulfathiazole (microcrystalline)	**5 " "**
Sodium citrate	**10 " "**
Sodium lactate	**12 " "**

The pH of this preparation is 6.5 and the sodium salts are equivalent, in their systemic alkalizing effect, to 16.6 per cent of sodium bicarbonate. Penicillin was added in the form of the calcium or sodium salt, as indicated. Preliminary experiments had shown that the penicillin dissolved in the sulfonamide preparation was stable for more than two weeks, if kept in a refrigerator. In a series of *in vitro* tests, it had been shown that this preparation will protect penicillin from the destructive action of the acid gastric secretion.

In tests on dogs to determine the absorption and utilization of the active drugs, it was found that the preparation quickly and readily provides therapeutic blood levels of both penicillin and sulfonamides, without kidney damage from crystalluria. The combination has been used advantageously in various simple and mixed infections of dogs and cats. It has shown remarkable results in a distemper-like disease of unknown cause, manifested by tonsillar irritation and acute diarrhea.

Terramycin in Poultry Feed

The findings of M. W. Reynolds, H. S. Luther and E. M. Weber, published in the July, 1951 issue of *Antibiotics and Chemotherapy* indicate that one-third ounce of terramycin per ton of feed can cut vitamin B_{12} requirements in chick rations by 40 per cent. This view is based on a series of experiments with some 500 birds aged one day to four weeks. Chicks chosen for the test were vitamin B_{12}-deficient New Hampshire Reds, selected from partially B_{12}-depleted parent stock. The basic diet conformed to good commercial feed standards, but did not provide either B_{12} or an antibiotic. Two groups of chicks fed on this diet alone averaged in weight at four weeks only 200 to 224 Gm.

On the same diet with 8 to 20 mg. of vitamin B_{12} per ton of ration, chicks at four weeks weighed up to an average of 314 Gm. From these tests it is concluded that 10 mg. per ton of feed was the optimal level for B_{12} when no antibiotic is used. When terramycin was added to the B_{12}-fortified feed, chick growth showed a further marked increase. In two groups, with B_{12} at 8 mg. and terramycin at 10 Gm. per ton, four-week weights were 331 and 340 Gm. In another group, with B_{12} at 5 mg. and terramycin at 10 Gm., weight at the same age was almost as good—329 Gm. Comparison of the weights achieved with the basic ration and the most successful combination of terramycin and B_{12} show growth increases at four weeks of more than 50 per cent.

From these tests, and on projection of growth curves in others in which various levels of terramycin and B_{12} were fed, Reynolds and his colleagues concluded that the optimum fortification was 10 Gm. of terramycin and 6 mg. of vitamin B_{12} in each ton of chick-starter feed. Other conclusions reached by these workers are: (a) Though addition of terramycin reduces, it does not eliminate the need for vitamin B_{12}. Best growth is obtained only when both are present in the ration. (b) Addition of terramycin to the diet brings proportionately greater growth responses when the B_{12} content is low or submarginal. (c) When adequate amounts of vitamin B_{12} are present in the ration, addition of terramycin beyond one-third of an ounce to a ton of feed does not stimulate significant additional growth gains. (d) Even as terramycin shows a B_{12}-sparing effect, the vitamin also shows an antibiotic-sparing effect. Without B_{12} in the diet, the terramycin level was increased two and a half times (to five-sixths of an ounce per ton) to obtain a four-week average weight of 10 ounces plus.

New Treatment for Winter Dysentery in Cows

According to E. A. White (*Vet. Med.* 46:160, 1951) vibrionic dysentery, or winter dysentery, occurs quite frequently in dairy cattle in milk producing areas, and results in a serious economic loss to dairymen in lowered milk production. The infection, generally believed to be *Vibrio jejuni*, is confined to the intestinal tract. In his new therapeutic approach, White took note of earlier work by Watson which revealed that solutions of copper salts, particularly copper sulfate, when brought in contact with the mucous membranes of the mouth and pharynx of sheep created a reflex nervous reaction upon the esophageal groove, affecting its closure, making possible the passage into the abomasum of suspended material subsequently administered.

Applying this phenomenon to cows, the following therapeutic procedure was initiated. First, the closure of the esophageal groove was affected by the administration of four ounces of a one per cent solution of copper sulfate with a dose syringe making possible contact with the mucous membranes of the mouth and pharynx; the seat of nervous control over the esophageal groove. Second, the immediate subsequent administration by dose syringe of 360 to 480 gr. of sulfathaladine or sulfaquanidine suspended in a pint of water. Only one treatment was administered in each case.

Following this therapeutic procedure, the course of the malady in several dairy herds was checked abruptly. Feces began to solidify in many cases within a period of less than 24 hours, and milk production was observed to improve rapidly toward the previous normal level.

Compounder's Corner

Preparations for Contact Dermatitis

In discussing the treatment of contact dermatitis, J. G. Downing (*Postgrad. Med.* 9:347, 1951) describes this condition as an inflammatory reaction of the skin due to the external action of physical, animal, vegetable, mineral or chemical substances. He states that powders are valuable because they are cooling and drying, especially on red, inflamed unbroken skin. The mineral substances are best—talc, zinc oxide, calcium carbonate, magnesium carbonate and kaolin. A reddened healing area may be protectd by borated talc. The incorporation of a small amount of oil is helpful, such as in the following:

Magnesium stearate	12
Liquid petrolatum	12
Talc, to make	120

Suspensions of powders—lotions—should be used on congested and oozing surfaces. Two useful and popular emulsions are calamine lotion U.S.P. XIII and neocalamine lotion N.F.VIII containing bentonite which helps to produce smooth emulsions. The addition of phenol, I to 2 per cent, and menthol, 0.25 to 0.5 per cent, relieves the pruritus. The following is an excellent formula for relief of severely itchy, vesicular areas:

Zinc sulfate	2
Phenol	2
Zinc oxide	15
Lime water, to make	250

This can be colored to match the patient's skin by adding neocalamine powder in proper proportions.

When the acute inflammation has subsided, pastes or emulsions are indicated. An excellent watery paste is:

Zinc oxide	30
Talc	30
Glycerine	30
Water	30

The official paste of zinc oxide is popular, but Downing prefers one of the two following preparations:

I

Zinc oxide	2
Hydrolyzed cornstarch	13
Petrolatum	15

II

Solution of aluminum acetate	10
Lanolin	20
Zinc oxide paste	30

Pastes should be used after an antipruritic lotion. He suggests that if there is any superficial infection, the following formula is indicated:

Menthol	0.5
Phenol	1.0
Ichthammol	7.5
Zinc oxide	30.0
Olive oil	
Lime water, equal parts of each to make	250

The use of ointments is the last step in the treatment of acute eruptions of dermatitis venenata.

Downing warns that tars should never be used in the treatment of the early stages of a contact dermatitis, but they are of great value in persistent pruritic patches of weeks' duration. White's original formula is of great benefit; being made from:

Crude coal tar	2
Zinc oxide	2
Cornstarch	15
Petrolatum	15

Downing notes that the newly introduced group of so-called antihistaminic ointments are of value in certain selected cases.

Soap Substitute and Calamine Variants

Because conventional soap may further irritate a skin affected by eczema and dermatitis, H. Goodman (*Merck Report* 60:23, April, 1951) suggests the use of the following soap substitute in the presense of these conditions:

Sulfonated olive oil	20.0 parts
Sulfonated coconut oil	4.0 "
Sulfonated castor oil	60.0 "
Mineral oil, low viscosity, sufficient to make	100.0 "

The patient is advised to dilute the mixture, one part to no less than four parts of water for cleansing the skin daily.

This dermatologist also notes that topical applications to areas of the skin showing signs of eczema and dermatitis usually include one or another variant of time-honored calamine lotion. Such variations are indicated as follows:

Stearic acid	4.0 parts
Triethanolamine	4.0 "
Water, sufficient to make	100.0 parts

Melt the stearic acid; heat the water in separate vessel to same temperature. Add the triethanolamine to the hot water. Mix by adding a little water to the melted stearic acid with constant stirring, preferably with mechanical agitation, until cream forms. Add:

Zinc oxide	8.0 parts
or add:	
Zinc oxide	8.0 parts
Prepared calamine	8.0 "
or add:	
Zinc oxide	8.0 parts
Prepared neocalamine	8.0 "
or add:	
Zinc oxide	8.0 parts
Prepared calamine	4.0 "
Prepared neocalamine	4.0 "

Non-Greasy Liquid Creams

In a discussion of cosmetic emulsions and emulsifiers, M. Fock (*Alchimist* 5:155, 1951) presents several formulas for making non-greasy liquid creams. The first formula for a so-called "lait de jour" calls for the use of:

Myristic alcohol	5 parts
Triethanolamin oleate	1 "
Glycerine 28° Be	5 "
Distilled water	89 "

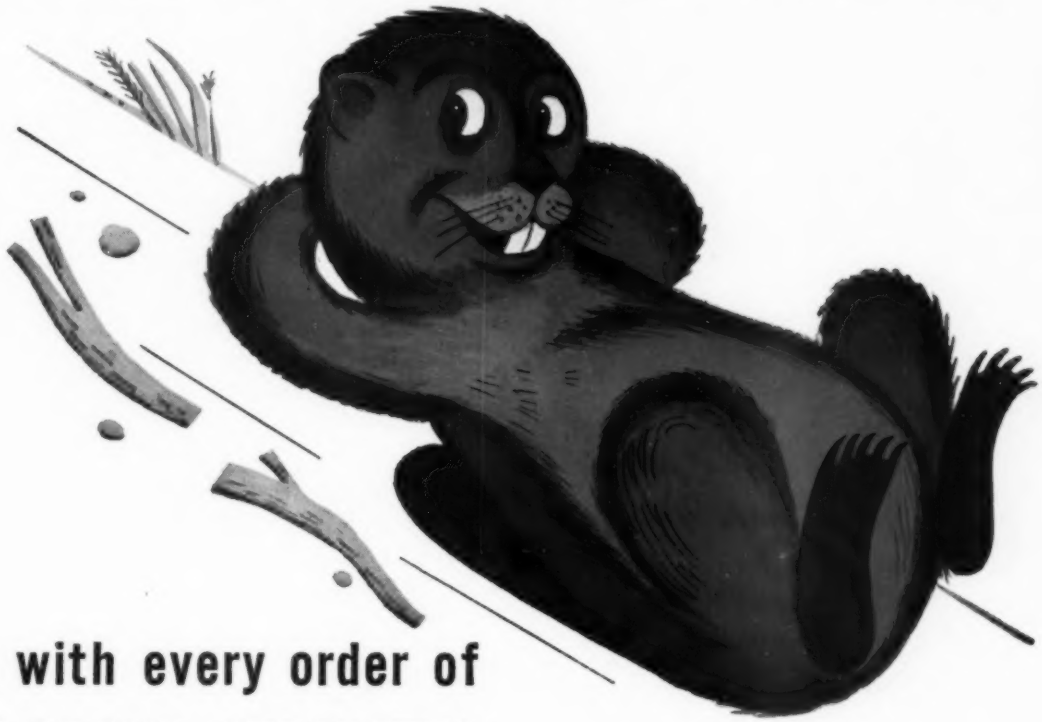
From 0.2 to 0.5 per cent of perfume may be used. Good homogenization improves the stability of this "milk" emulsion.

A modification of this formula is given as follows:

Stearin	6.0 parts
Beeswax	1.0 "
Triethanolamine	1.2 "
Diethylene Glycol	3.0 "
Distilled water	88.8 "

To the mixture of water, triethanolamine and diethylene glycol heated at about 65° C. the molten stearin and wax heated at about 65° C. are slowly added with constant stirring. Perfume

SMOOTHER SLIP



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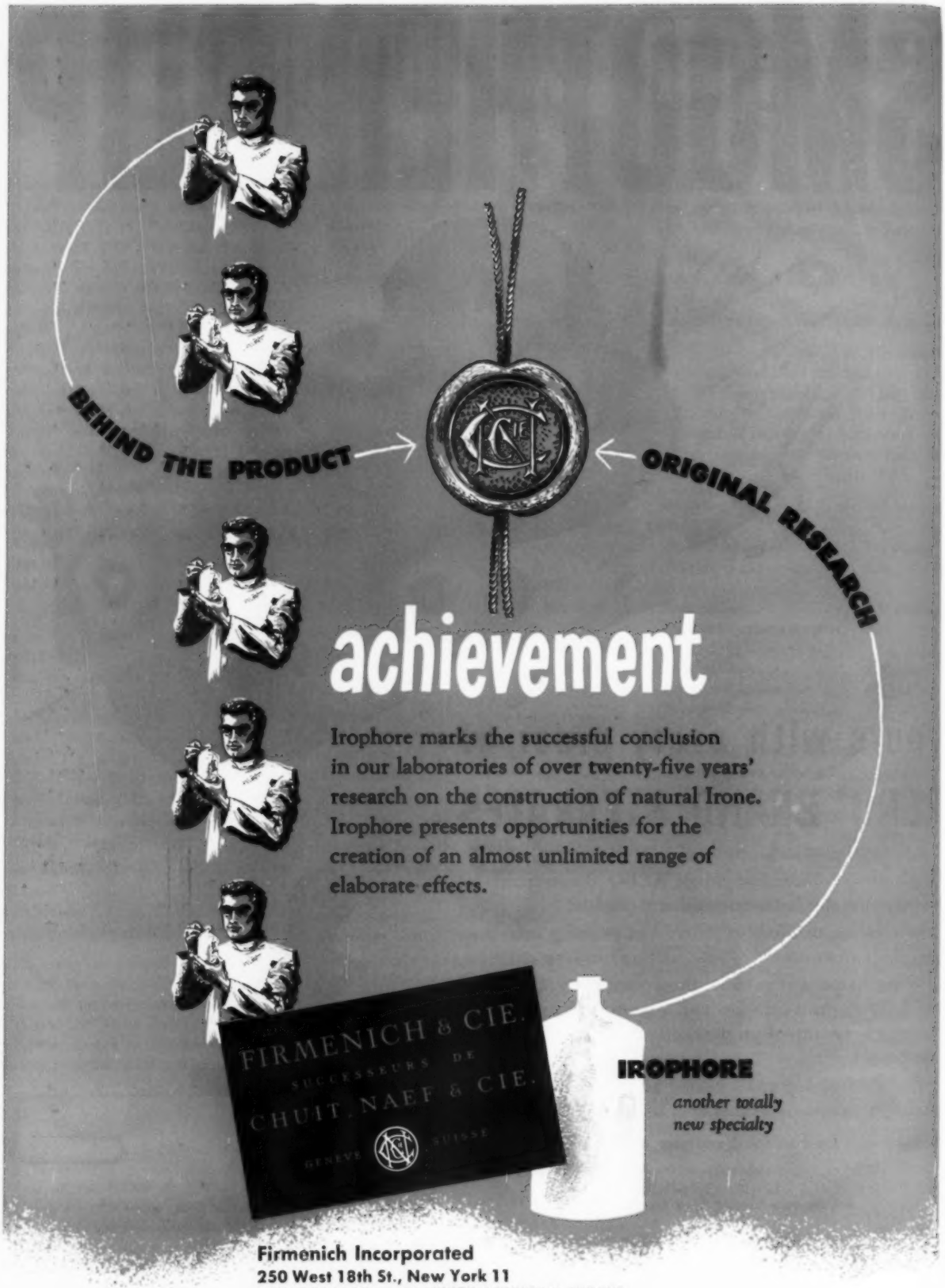
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is slowly added to the cooled emulsion. Distilled water may be partly replaced by hamamelis water or cucumber water in order to obtain special cosmetic effects.

Fock suggests that an almond milk (lait d'amandes) without almond oil is prepared as follows:

Paraffin oil	**30 parts**
Beeswax	**1 "**
Spermaceti	**1 "**
Triethanolamine oleate	**4 "**
Triethanolamine stearate	**2 "**
Distilled water	**62 "**

The triethanolamine oleate and stearate are melted together with paraffin oil, beeswax and spermaceti and to the molten mixture the water heated at 35° C. is added with vigorous stirring. The perfume should be slowly added. The viscosity may be regulated by adding water.

Penicillin Preparations

One of the highly informative leaflets issued by the University of Florida, College of Pharmacy presents several penicillin preparations, as taken from the "Accepted Florida Formulary." Indicative is the following oral solution of penicillin which in one teaspoonful doses as directed by the physician, is useful as a prophylaxis in tonsillectomies, tooth extractions, in pneumococcic infections, in hemolytic streptococcic infections and in minor staphylococcic infections without bacteriemia:

Buffered Crystalline Penicillin G Potassium 100,000 U/5 cc.	
Cherry syrup vehicle to make	**120 cc.**

A solution containing 1000 units of penicillin per cc, for use in treating eye conditions, is made from:

Penicillin sodium crystalline G (unbuffered)	**1,000,000 U.**
Sodium acid phosphate, anhydrous	**4.0 Gm.**
Disodium phosphate, anhydrous	**4.7 Gm.**
Sodium chloride	**4.0 Gm.**
Benzalkonium chloride solution 1:5000, to make	**1000.0 cc**

Penicillin nose drops may be prepared from:

Penicillin sodium crystalline G (unbuffered)	**1,000,000 U.**
Ephedrine sulfate	**0.5 Gm.**
Sodium chloride	**0.9 Gm.**
Sorenson's buffer solution	
Sodium acid phosphate	**80.0 cc.**
Sodium phosphate solution, to make	**100.0 cc.**

A penicillin mouth wash was given as follows:

Penicillin sodium crystalline G (unbuffered)	**50,000 U.**
Sorenson's buffer solution	
Sodium acid phosphate	**80.0 cc.**
Sodium phosphate	**20.0 cc.**
Amaranth to color	

A penicillin ointment consists of:

Penicillin sodium crystalline G	**100,000 U.**
Cetyl alcohol	**21.0 Gm.**
Spermaceti	**12.1 Gm.**
White petrolatum	**21.0 Gm.**
Sodium lauryl sulfate	**0.3 Gm.**
Sodium citrate	**3.0 Gm.**
Urea	**4.9 Gm.**
Water, distilled	**37.7 Gm.**

Salt Substitutes

The growing importance of salt-free or low-salt diets in the treatment of various conditions, notably cardiorenol disorders, has led to increased interest in salt substitutes. These sodium-free preparations are invaluable for adding flavor and zest to saltless foods. In Technical Data Sheet No. D-113-E, issued by Chemo Puro Manufacturing Co. of Long Island City, N. Y., it is stated that formates, when properly compounded, have a taste similar to that of sodium chloride and sprinkle freely. They may be added to dough before baking and to other foods before cooking, except when prolonged boiling is necessary (as in the case of soups.)

Two formulas are suggested. The first consists of:

Calcium Formate	**1 part**
Magnesium Formate	**1 "**
Potassium Formate	**2 parts**
Ammonium Chloride	**5 "**
Potassium Chloride	**30 "**
Starch	**7 "**

The second formula for a salt substitute is as follows:

Calcuim formate	**1.0 part**
Calcium citrate	**0.9 "**
Lithium formate	**0.1 "**
Magnesium formate	**1.0 "**
Starch	**0.15 "**

In both of these formulas, the magnesuim formate may be replaced by an equal quantity of magnesium citrate.

Booklet on Surface-Active Agents

An authoritative 48-page technical booklet covering the nature, grades, properties and applications of Triton and Hyamine surface-active agents has been prepared by Rohm & Haass Company. Data included will be found useful to chemists and technologists in widely separated fields, including cosmetic manufacture. The illustrated booklet includes a useful section on the preparation of emulsions. Ten tables record data on surface and interfacial tension values, wetting time, spreading coefficients, foaming volumes stability and other properties. Also included is an unbound summary, printed on card stock for ready reference in plant or laboratory, which tabulates, for each of 12 compounds, the chemical structure, recommended solvent, ionic activity, conditions of use and suggested uses. The booklet is available without charge on request to the manufacturer at Washington Square, Philadelphia 5, Pa.

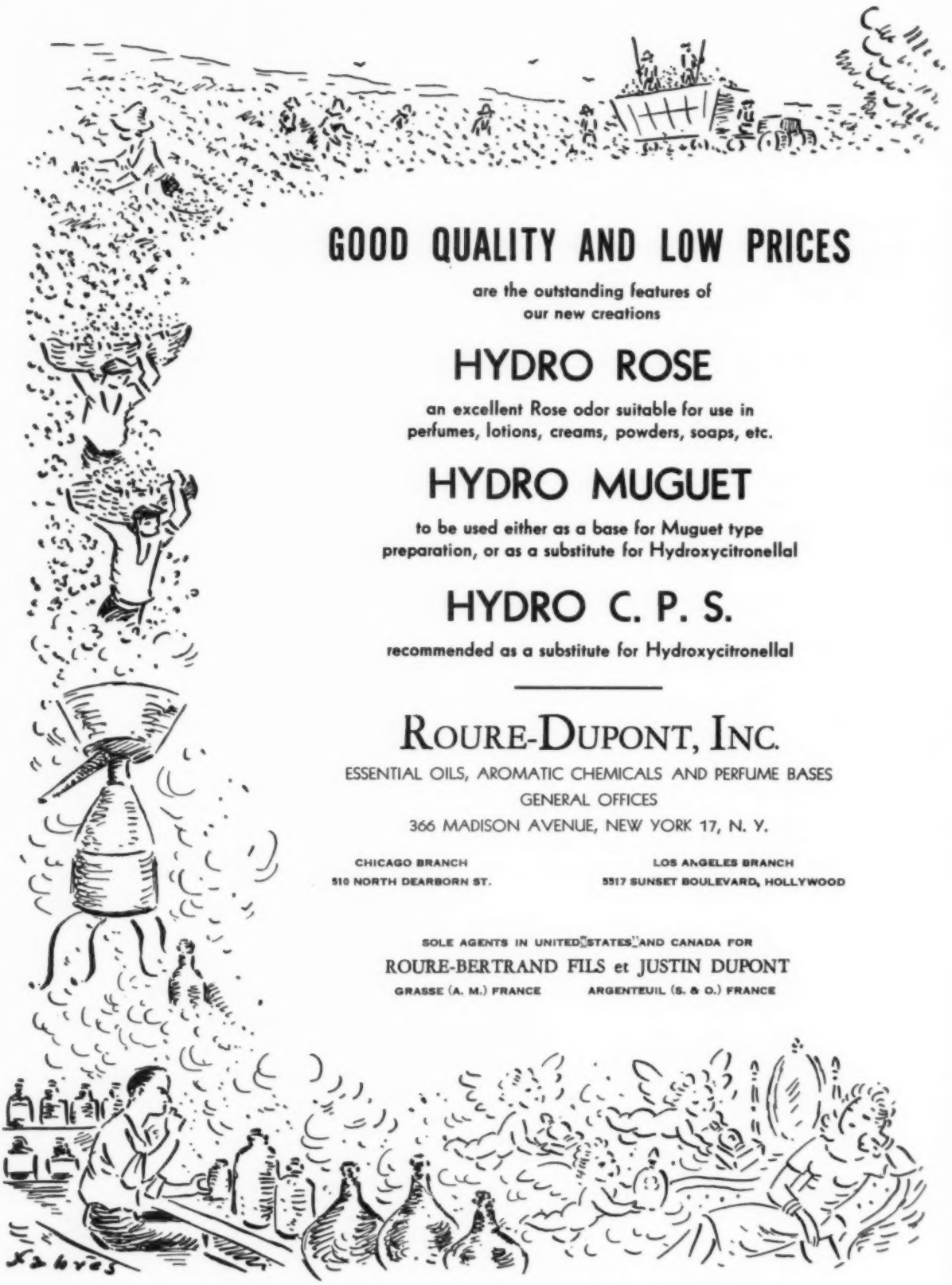
Improved Mounting Medium

An improved mounting medium based on polyvinyl alcohol, for use in histological work, has been developed by J. P. Hall (*Pharm. J.* 167:65, 1951). It consists of:

Polyvinyl alcohol, high viscosity	**4.00 Gm.**
Acetone, 70 per cent	**14.00 cc.**
Glycerine	**15.00 cc.**
Lactic acid	**15.00 cc.**
Water	**30.00 cc.**
Thymol	**0.05 Gm.**

Add the acetone to the polyvinyl alcohol in a dry, glass-stoppered bottle and shake well. The glycerine and lactic acid are mixed with 15 cc. of water and added with constant shaking. After standing for ten minutes, the rest of the water is added, then the thymol and, after further shaking, the bottle is warmed on a water bath at about 70°C. until all the particles have dissolved.

The medium is a transluscent, viscous, and homogeneous liquid with a refractive index of 1.417. Test mounts prepared with it were firm enough to handle within one hour, or, if warmed to gentle ebullition over a low flame, within five minutes. After that, the hardening proceeds with time. The medium may be used as a combined clearing and mounting agent, but denser structures should be cleared in chloral hydrate solution before mounting. By adding an aqueous safranin solution to the medium until a suitable depth of color was obtained, a combined mountant, clearing agent and staining agent was prepared.



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Readers' Questions

TARTAR REMOVER: We are desirous of securing a formula for removing the tartar from the teeth. If possible, we prefer this formula to be in a solid or stick form. Montreal.

Any preparation which would be effective for removing tartar would depend upon the action of an abrasive or upon the application of a strong mineral acid. Although authorities feel that tartar should be removed by dental instrumentation, it may be possible for you to prepare an effective stick based on the use of a mild abrasive. Pumice might do but, in my opinion, it is rather harsh and may do damage to the enamel if used too often by inexperienced persons. Sticks of this sort can be made by mixing the abrasive with a suitable binder such as soap or some similar substance and compressing in molds to the desired shape.

SUNTAN PREPARATIONS: We would be extremely grateful if you would be so kind as to send us some formulas for the preparation of a sun cream and oil. Of course, we would like formulas using materials available in this country. Genoa.

A formula for a cream using materials which I believe are available in Italy, is as follows:

Quinine sulfate	**3.5**	**per cent**
White ceresin wax	**5.5**	**" "**
White petrolatum	**20.5**	**" "**
White mineral oil (65-75)	**19.5**	**" "**
Lanolin	**15.0**	**" "**
Water	**35.5**	**" "**
Oil of cassia	**0.5**	**" "**

Heat the water to 70°C. and dissolve the quinine sulfate in it. Melt the ceresin, petrolatum, and lanolin together, stir in the mineral oil, bring the mixture to 65°C. and stir in the quinine solution. Continue stirring until the temperature drops to 45°C. and then add the oil of cassia. Stir until cold.

For an anti-sunburn oil, I would suggest that you try the following:

Quinine oleate	**3.5**	**per cent**
Olive oil	**46.0**	**" "**
Peanut oil, refined	**49.5**	**" "**
Oil of cassia	**0.5**	**" "**
Perfume oil	**0.5**	**" "**

Dissolve the quinine oleate in the oils, add the perfume and the other oils. If it is desired a sufficient quantity of pigment brown may be added to this preparation.

BUBBLING BATH PREPARATIONS: Will you please send me information and formulas for making liquid bubbling baths. New Rochelle.

I should like to point out that a very comprehensive review of such products appeared in our January, 1950 issue. Here it was stated that liquid bubble baths may be prepared from synthetic detergents such as sodium lauryl sulfate, sodium lauryl sulfacetate and alkyl aryl sulfonates. The proportions range from 10-35 per cent in water and the preparations are made by simply dissolving the detergent or surface active agent in the water and adding a suitable perfume.

HAIR SOFTENING OILS: Will you please publish in your magazine the known oils which will soften the beard. Is olive oil considered a beard softener? Detroit.

As a matter of fact, many oils have the softening effect on the hair. That is the reason that they are included in many shampoos and hair preparations and the same applies, of course, to the beard. Olive oil, almond oil, castor oil and certain other vegetable oils will do this. Mineral oil also has a softening effect on the hair and lanolin rates very high.

GRAYING HAIR: I am very much interested in a method to speed the graying of the hair. One of my friends has gray patches and would like to have a more unifom appearance and it seems to me that others might be faced with a similar problem. Hollywood.

To achieve the effect desired requires a combination of bleaching and rinsing. Thus, bleaching with peroxide gives a yellowish shade to the hair which can be further whitened to the desired degree by the judicious use of a bluing rinse. The procedure for bleaching hair commonly used is the liquid method. The liquid method uses 17 vols. strength (5 per cent concentration) hydrogen peroxide to which usually has been added about 20 drops of ammonia for each fluid ounce of the hydrogen peroxide. After bleaching, the hair and scalp should be washed quite free from peroxide and treated with an appropriate rinse.

A suitable rinse in your case would consist of a small quantity of aniline violet with the addition of citric or tartaric acid or a combination of the two. Tartaric acid is generally preferred. I cannot be more specific in this case since the amount of tartaric acid to be used will depend upon the dyes or dye mixtures you intend to use. Of course, only certified D & C certified FDA colors should be used for this purpose. As a rule such mixtures are used in the ratio of 30 grains to the gallon of water.

Perfumer's Shelf

Wine Lees or Cognac Oil

It is noted by L. Benezet and G. Igolen (*Rivista Ital.* 32:436, 1950) that wine lees or cognac oil, as it is sometimes called, is the only natural product that approaches the odor of wine. Its origin is due in part to microorganisms that are active in some stage of wine production, and part of the constituent factors probably pass into the lees. The color of the lees varies from dirty yellow to deep violet. Its composition is complex, and includes potassium bitartrate, acid tartrate of calcium, iron and aluminum salts, coloring matter (anthocyanins), an essential oil, some alcohol, etc. The essence is obtained by steam distillation of the wine lees.

Data taken from the literature indicate that cognac oil has the following constants:

Specific gravity	**0.872-0.890**
Index of refraction	**1.427-1.432**
Insoluble esters	**140-250**
Acid index	**29-100**

The oil is soluble at 80°C in from 1.5 to 5 volumes of alcohol.

Some analyses indicate that the aroma and bouquet constituents definitely include acetaldehyde, vanillin, cinnamic aldehyde, and acetone, and probably also formaldehyde and methylacetylcorbinol.

The crude steam distillation product forms an oil of slightly greenish color containing, in suspension, a white gelatinous material that is probably mostly fatty acid. From the filtration of eight kilos of this material Benezet and Igolen obtained about 70 Gm. of a crude insoluble material that was purified by solution in 96 per cent alcohol. This solution was treated with carbon black, filtered, cooled, and the precipitate separated and again purified. The insoluble part was treated with sulphuric ether and purified by crystallization in alcohol. It had a high acidity number and was found to consist mostly of palmitic acid. The essence thus obtained, had the following physical constants:

Specific gravity	**0.879**
Index of refraction	**1.440**
Acid index	**48.1**
Insoluble esters	**166.9**

From these and other data it was concluded that the essence still contained an appreciable amount of free acids. Following further treatment and fractionations, the investigators expressed the view that wine lees essence consists mainly of free fatty acids such as palmitic acid, ethyl caprate (capric acid) and ethyl palmitate. So far as these workers are aware the palmitic acid and palmitate have not previously been indicated.

Sweet Taste and Sweeteners

In another of his discussions on the tastes, R. W. Moncrieff (*Perf. & Essent. Oil Rec.* 42:25, 1951) points out that the sweet taste is a much later development in the evolutionary scale than were the salt and sour tastes. These last two had as their main concern the safeguarding of the individual; their purpose was to warn the organism of an unsuitable environment; in effect they were safety senses. But the sweet taste appears to have no similar function. Its purpose is not to warn the animal of impending danger, but to help in its nutrition. Thus, children have a much keener sense of sweetness than adults. This probably depends on the more widespread distribution of taste buds in the child.

Sweetness, says Moncrieff, can be measured only by tasting. There is no instrument that will detect sweetness, so that in order to compare the sweetness of different sugars we are dependent on some organoleptic tasting procedure. Paili's method is probably the most satisfactory. It consists of making a series of solutions of different strengths of the sugar under consideration, and also a 2 per cent solution of sucrose. The observer, by repeated tasting, determines at what place in the series the standard sucrose solution should be placed in order to give a continuous series of increasing sweetness. Carr, Beck and Krantz noted the minimum concentration of various sugars which would just produce a sweet taste in a half minute; working on the assumption that the sweeter the sugar, the more dilute would be its threshold concentration. Among comparative values that they found were the following:—

Erythritol	**238**
Ethylene glycol	**130**
Sucrose	**100**
Dulcitol	**74**
Mannitol	**57**
Sorbitol	**54**

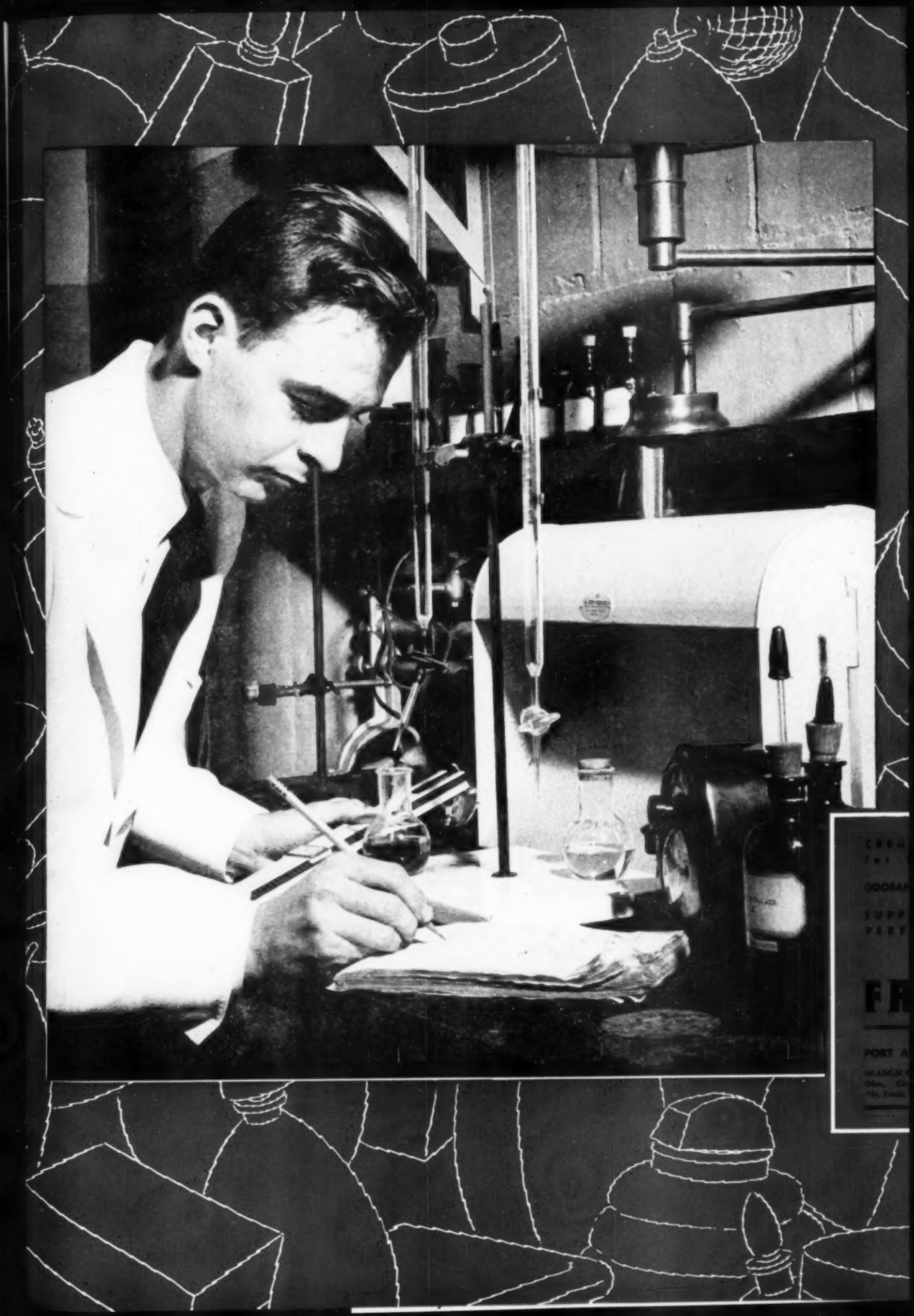
Cameron more recently determined the sweetness of various concentrations of several sugars, and showed that the following pairs were equally sweet:

2.0 per cent sucrose
and 3.8 per cent glucose
20.0 per cent sucrose
and 25.0 per cent glucose
2.0 per cent sucrose
and 6.5 per cent lactose
8.0 per cent sucrose
and 21.7 per cent lactose
2.25 per cent sucrose
4.0 per cent glycerol
8.9 per cent sucrose
and 12.0 per cent glycerol

There is no constant linear relationship between concentration and sweetness. Some sugars, notably sucrose, glucose and lactose, behave very uniformly. They have roughly the same relative sweetnesses at all concentrations. Fructose behaves quite anomalously. Its relative sweetness is nearly twice as great in high concentrations as in low. Why this should be so is not known. Glucose behaves less anomalously, but even its relative sweetness varies from 62 to 100 according to dilution.

In discussing artificial sweeteners, Moncrieff notes that pure saccharin, *o*-benzene sulphonamide, is some 550 to 700 times as sweet as an equal concentration of sucrose, it is by no means readily soluble in water but is sufficiently so, owing to its great strength, for sweetening purposes.

In 1883, not long after the discovery of saccharin, Berlinerblau discovered dulcin, which chemically is *p*-ethoxyphenylurea and which is about 200 times as sweet as sugar, and has been used as a sweetening agent. It has been



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IT is said that "a man is known by the company he keeps." We might paraphrase this and say, "a *company* is known by the *salesmen* it keeps," for this is so often literally true. The sales representative who makes his periodic calls is frequently the customer's sole contact with his supplier and it is largely through such representation that his opinion of the latter is formed. That is why the men who represent us in the field today—most of whom have now been in our organization for many years—were chosen originally with searching discrimination and trained for their present work with patient and diligent care. For to you, our customers, *they* are FRITZSCHE BROTHERS. By their courtesy and consideration, by their intelligent understanding of and helpfulness with your problems, and by the honesty and integrity of their solicitation for your business. . . . by all the impressions *they* leave, you judge *us*. It is to give credit where credit is due that we commend our sales staff and say here that we are proud of every one of them and of the way each has represented us. All have large territories to cover and it is our one regret that they cannot reach more customers and prospects more frequently and, in their individual ways, extend FRITZSCHE prestige and good will far beyond their present, immediate contacts. To those of you who know our men and have made their visits welcome, we speak for all when we say . . . "Thank you, most gratefully."

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shown that dulcin is slightly more toxic than saccharin, but that in the quantities commonly required for sweetening beverages, jams and fruit, no untoward results are likely to ensue even after prolonged use.

Sometimes artificial sweeteners are mixed with natural sweetening agents with advantage. One worker has recommended the use of a mixture of glucose and saccharin as a substitute for sugar. The bitter after-taste to which saccharin in particular is subject may be largely hidden by this device.

Sousan is one of the most recently announced synthetic sweet substances, having been reported by Petersen and Muller, who gave its sweetness as 350 times that of sucrose. Chemically it is *N*-(*p*-nitrophenyl-)-N^1-(β-carboxyethyl)-urea. It remains to be seen whether this substance will have a commercial application.

Far sweeter than anything that had ever been made or known before, are the nitramines on which so much work has been carried out of recent years by the Dutch school. The 4-nitro-2-aminophenyl alkyl ethers are extremely sweet. The sweetness of 4-nitro-2-aminophenylpropyl ether is 4,100 times that of sucrose. Sweetness appears to reach a maximum with the propyl substituent. The *iso*propoxy derivative is only 600 times as sweet as sugar, but very surprisingly the allyoxy compound has a sweetness of 2,000 times that of sucrose. Many other similar compounds have been made, and their taste is purely sweet, there is no after-taste.

Brochure on Vanilla

Considerable valuable information on Vanilla is provided in a brochure published by Dodge and Olcott, Inc. The brochure contains a brief but informative study of vanilla beans and derivative products plus fourteen pages of formulas for manufacturing and professional use. Vanilla beans and vanilla concentrates prepared by D&O are discussed and carefully defined. All information pertinent to their use, solubility, constituents, etc., is thoroughly described. The preface and introduction present brief descriptions of the primary Vanilla products discussed and the various categories and formulas have been carefully indexed for greater convenience in use. A number of solubility charts of value in vanilla flavor formulations, is also included. A copy of the brochure is available from Dodge and Olcott, Inc., 180 Varick St., New York 14, N. Y.

Solubilized and Emulsified Perfumes

Although potash soaps are still used in the production of solubilized perfumes says S. P. Jannaway (*Alchimist* 5:124, 1951), more recent studies have led to the use of improved dispersing agents and of added solvent. In the newer methods, says he, the solubilization of perfumery oils is normally carried out by using a four-component system: oil, water, emulsifying or dispersing agent, and an auxiliary solvent. Among the dispersing agents are potash soaps and synthetic detergents such as sulfonated castor oil, triethanolamine lauryl sulfate, sodium lauryl sulfate, and others. The auxiliary solvents are fairly numerous, including benzyl alcohol, glycols and glycol ethers, and the polyethylene glycol derivatives of sorbitan esters. A very approximate basic formula, suitable for experimental work, is given as follows:

Triethanolamine lauryl sulfate	**30 parts**
Diethylene glycol monoethyl ether	**10 "**
Benzyl alcohol	**5 "**
Perfume oil	**20 "**
Distilled water	**35 "**

Emulsified perfumes, says Jannaway, came into prominence in 1931 in the U. S. Marketed as cream colognes, a product of this type must be practically nongreasy, stable and nonviscous. The following experimental formula should provide a semi-greaseless emulsified perfume that is thin and easily pourable:

Stearic acid	**2.5 Gm.**
Diethylene glycol monostearate	**1.5 Gm.**
Cetyl alcohol	**1.0 Gm.**
Lanolin	**1.5 Gm.**
Isopropyl myristate	**10.0 Gm.**
Triethanolamine	**1.0 Gm.**
Perfume in diethylene glycol monoethyl ether (1 in 3)	**8.0 Gm.**
Distilled water	**80.0 cc.**

Another formula for experimental use in making emulsified perfume consists of:

Lanolin, anhydrous (best cosmetic quality)	**2 Gm.**
Isopropyl myristate	**12 cc.**
Mineral oil	**34 cc.**
Sodium lauryl sulfate (substantially free from sodium sulfate)	**2 Gm.**
Perfume oil (selected)	**2 Gm.**
Distilled water	**50 cc.**

The lanolin is melted with the myristate and mineral oil, at the lowest possible temperature. The perfume oil is next added, followed by the fatty alcohol sulfate dissolved in water, both additions being at the same temperature as the oil batch. A short period of brisk stirring is sufficient to produce a thin, stable emulsion.

Various other types of emulsifying agent may be used, such as potash soaps, soaps and gum mucilages used conjointly, and amino glycol stearates. If soaps are used, the perfume constituents should be alkali-stable.

The manufacture of these emulsified products involves certain technical problems and these are increased because of the adverse effect of certain perfume materials on stability. Thus, while 0.25 per cent of a given perfume may not adversely affect the stability of an emulsion, proportions of one per cent or more may cause pronounced separation within a very short time. However, certain types of perfumes may be incorporated in suitable emulsions in proportions of 5 per cent or more. Jannaway observes that terpineol is a widely used perfumery material that seems very prone to promote phase separation in emulsified perfumes and similar highly perfumed creams. When specifying perfume oils for use in such preparations it is, perhaps, desirable to insist that they should either be free from terpineol or should contain not more than perhaps 10 per cent as a maximum.

New Variety of Mint

In the summer of 1949, a new variety of mentha, a green mint, appeared in the Okayama (Japan) prefecture, which T. Nagazawa (*Koryo*, No. 14, 1951, through *Chem. Abstr.* 45:5361, 1951) calls horse mint. The new mint and dogmint are easily distinguished from Japan mint by viscosity and from each other by specific gravity and by specific rotation of the oils.

Synthetic Otto of Rose

It is claimed by F. Brumburgh of the Felton Chemical Co., Inc., Brooklyn, N. Y. that, for the first time in perfume history, most of the constituents of Bulgarian otto of rose have been discovered and synthesized into an exact reproduction of the natural product. This new synthetic perfume base has been named Otto of Rose Alternate F. C. It is said its remarkable authenticity makes Otto of Rose Alternate F. C. an excellent replacement or extender for Bulgarian otto of rose.

Polyethylene Glycols

(*Continued from page 317*)

materials indicates their potentialities. Thus, certain characteristics of the Carbowaxes are shown in the following table:

Carbowax	*Appearance*	*Melting Point, °C*
1000	like beeswax	38-41
1500	soft petroleum-like wax	38-41
1540	like beeswax	43-46
4000	flaky wax	53-56
6000	hard flaky wax	58-61

As already noted, individual members of the family of polyethylene glycols and Carbowaxes may be blended to obtain mixtures with properties that are limited only by the characteristics of the lowest and highest weight components. However, as pointed out by McClelland and Batemen,[3] an even wider range in some properties can be obtained by blending these polymers with water, alcohols, or other glycols. Although the polyethylene glycols are incompatible, in the accepted sense, with many oils, fats, waxes and gums, a homogeneous mixture can often be made by heating the polymer with the incompatible substance.

These compounds are notable, however, for their wide range of compatibility and they are effective solvents for many common medicaments. Included among the many substances compounded with the polyethylene glycols are sulfur, phenol, ammoniated mercury, mercuric oxide, quaternary ammonium compounds, ichthammol, boric acid, tannic acid, balsam of Peru, resorcinol, salicylic acid, coal tar, gentian violet, calamine, salicylanilide, propionates, undecylenates, sulfa drugs, penicillin and other antibiotics, various hormones and cortisone.[11,12]

Moreover, the polyethylene glycols do not hydrolyze, deteriorate or become rancid and they do not support mold growth. Although they do not adequately soften the skin, as would a true oily base, their great solubility in water and in sweat makes up for this lack to a large extent.[13] These characteristics, plus the marked trend toward water-miscible, washable ointment bases (as against greasy compositions), all help to explain the growing utility of the polyethylene glycols in dermatologic preparations. In this connection, it has been suggested that medicinals incorporated in such vehicles should often be reduced below the concentration normally employed in oil-based preparations, since many drugs are more active in the newer bases.

In addition, ointments made with the polyethylene glycols spread evenly and adhere well, even if the skin is moist, but they are readily washed off with warm water.[14] Another advantage is the fact that ointments are easy to prepare when these compounds are the basic ingredients of the vehicle. They can be prepared readily by melting the polyethylene glycol or Carbowax compound, mixing thoroughly with the desired ingredient, and pouring into containers. If a dry insoluble material is to be included, it should be pulverized and added to the melted mixture just before it passes into the more

viscous state on cooling. The addition of a dry, powdered material may increase the viscosity of an ointment and, conversely, a liquid medicament may soften it.[3]

However, as shown in 1943, when Landon and Zopf[15] used Carbowax 4000 with other types of materials to make a highly compatible base, the polyethylene glycols are also useful as adjuncts to improve the properties of an ointment. Since then much has been learned concerning the dermatologic action of the Carbowaxes and of their effectiveness in preparations for treating skin conditions. Thus, Dodd and his colleagues[16] found that the Carbowaxes were nonirritating to the human skin. In Maynard's[13] experience, in which polyethylene glycol vehicles were prescribed at least a thousand times, no local irritation or sensitization has occurred on the skin through their continued usage. However, as reported by Strauss,[17] sensitization to this compound can occur, although it is not frequent.

Several investigators[18,19] have shown that there is a high rate of diffusion from the water-miscible Carbowax dermatologic ointments. Their studies indicate that such vehicles display a marked ability to release the contained medicaments into tissue fluids. Other work[20,21] has shown that both the appearance and effectiveness of these ointments may be influenced by the presence of various substances, especially surface active agents.

Quite a number of ointments containing polyethylene glycols have been developed[11,12,22,23] during recent years. The official polyethylene glycol ointment is an outstanding example of such products. It is a homogeneous, white, semi-solid base which liquefies at 52° C and is similar to petroleum in consistency. It is completely water-soluble and is non-staining to clothes and bed linens. Tests show that it remains relatively unchanged when stored at room temperature for indefinite periods. It can, therefore, be recommended as a stock vehicle.[24]

Tice[4] notes that such a base has gained considerable favor as an ointment vehicle; one that replaces the older fatty or hydrocarbon bases. He states that a number of commercial ointments are prepared with bases closely resembling this official base. Tice also suggests that if a softer product is desired, as much as 20 per cent of the Carbowax 4000 may be replaced by polyethylene glycol 400.

Another popular and extensively used blend is known as Carbowax 1500. Composed of equal parts of Carbowax 1540 and polyethylene glycol 300, it has the consistency of a low melting petroleum.[25] Described[13] as the compound most adaptable to dermatologic prescribing, Carbowax 1500 may be used alone as an ointment base.[14] However, it is often used in conjunction with other polyethylene glycols. Two such blends are given below; formula A being suggested by Franke,[26] formula B by Ehrenstein:[24]

	A	B
Carbowax 1500	55	30
Carbowax 4000	20	40
Polyethylene glycol	20	30

These compounds may also be mixed with other ma-

(*Continued on page 396*)

Advancing Therapy

Starch Sponge, a New Hemostatic

The potentialities of starch sponge as a hemostatic agent have been explored by S. S. Rosenfeld (*Am. J. Obst. & Gynec.* 61:1179, 1951). He explains that in 1947 a patent was granted to Bice and MacMasters, and assigned by them to the U. S. Department of Agriculture for an absorbable starch sponge which could be utilized both as a food and a surgical dressing. After reading a description of this patent, Rosenfeld got the idea that the substance might also act as a hemostatic agent. The dry sponge is capable of absorbing sixteen times its weight in water. It can absorb appreciable amounts of medicaments such as penicillin, streptomycin, gramicidin, and sulfonamides. The sponge disintegrates slowly in body fluids and the dissolved material after enzymatic attack is absorbed by the tissues without harmful results.

The sponge is prepared as follows: Make a "slurry" of starch in water. This usually contains 5 to 10 per cent of starch by weight. In general, the higher the concentration of starch the finer the texture of the sponge. At equal concentrations, cornstarch makes a firmer sponge than wheat or potato starch. Additions of chemicals that are to be incorporated into the sponge may be made to the "slurry" or to the paste. Sponge formation is brought about by slowly freezing the paste. Freezing must be complete throughout the paste before thawing is permitted. After thawing is completed, the sponge is squeezed or pressed to remove free water. If it is to be used wet, the material is stored in 70 per cent ethyl alcohol. The dry sponge is sterilized by cutting it into the desired size and shape, and may conveniently be wrapped in heavy paper and tied with a string. These wrapped pieces may then be placed in a container and autoclaved. The sponge must immediately be dried, which is accomplished by drying under vacuum in the autoclave, or by subjecting the sponge to a temperature of 90° C. in a drying oven for at least one hour.

In Rosenfeld's clinical investigations starch sponge was employed as a hemostatic agent in 155 cases. The starch was applied either in the form of a bar, a gauze impregnated pack, or as a powder. Intraperitoneal, intrauterine, vaginal, perineal, rectal, fascial, and muscle applications were made. In nearly every instance where oozing of blood resulted from capillary or venous injury, hemostasis was attained. The action of the sponge is apparently local and augmented by the fact that less thrombin is required for the formation of clot. He feels that the low cost of the starch sponge, in comparison with other hemostatic agents, is an important consideration.

Parenteral Bacitracin

According to the observations of A. B. Longacre and R. Waters (*Am. J. Surg.* 81:599, 1951), bacitracin, which is of value in the local treatment of various types of surgical and dermatologic infections, may also be effective when administered by injection. In their study, parenteral bacitration was employed in 50 cases of infection. Except in those cases which were seen in consultation for an already existing infection, bacitracin constituted the initial antibiotic therapy, the first dose administered in the admitting ward. The bacitracin was supplied in powder form in vials containing varying unit amounts. The powdered bacitracin was dissolved in 2 per cent novocain with saline, the final solution containing 10,000 units per cubic centimeter. This permitted small doses in the early cases, thus minimizing the risk of a systemic or renal reaction.

The results indicate that bacitracin can be safely used by parenteral administration in the treatment of infectious diseases. The antibiotic was definitely of therapeutic value in thirty-four, or 68 per cent, of the cases reported. However, bacitracin can cause toxic reactions as manifested by local pain and signs of a nephrotoxicity. This nephrotoxicity was considered to be mild in fourteen cases and severe in two cases but in no instance was it necessary to discontinue bacitracin therapy. All signs, both local and urinary, of toxicity disappeared rapidly upon cessation of therapy.

Glycocoll Treatment of Wounds

Experimental and clinical work have shown that hypoproteinemia may retard the healing of wounds. Of interest, therefore, is the work of H. Fargel (*Munch. Med. Wochenschr.* 93:602, 1951) who treated 80 wounds (including 16 ulcers of leg, 31 infected wounds and burns, 10 incised paronychia, 21 incised abscesses) with glycocoll gauze, powder, and solution. Comparative clinical observation showed distinct stimulation of regeneration and proliferation of tissues, with consequent acceleration of healing. There were no allergic manifestations. Glycocoll may be regarded as a substitution therapy, supplying the regenerating soft tissues with a necessary constituent of metabolism which apparently cannot adequately be supplied by way of the blood stream. Glycocoll also inhibits the proteolytic ferments of bacteria and protects the body against secondary albumin loss.

Antibiotic Synergism and Antagonism

Important information on antibiotic synergism and antagonism is provided in the report of E. Jarvetz, J. B. Gunnison, R. S. Speck and V. R. Coleman (*Arch. Int. Med.* 87:349, 1951). Experiments *in vitro* with both gram-positive (Streptococcus) and gram-negative (Klebsiella) organisms and *in vivo* with streptococci in mice have demonstrated that chloramphenicol interferes with the bactericidal or therapeutic effect of penicillin. The antagonism extends over wide ranges of concentrations of the drugs, but these ranges are determined by the degree of antibacterial activity of each drug. For example, low, nonbacteriostatic concentrations of chloramphenicol do not inhibit the action pf penicillin against *Str. pyogenes*, whereas high bacteriostatic concentrations of chloramphenicol do not interfere with the weaker action of penicillin on *K. pneumoniae*. These findings suggest that the two drugs do not interact in a chemical or physical way. This impression is confirmed by the observation that the antagonism occurs only if chloramphenicol is given prior to or simultaneously

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U.S.I. CHEMICAL NEWS

September ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1951

Intravenous Alcohol Good General Pain-Killer

Favorable results have been reported in 2000 cases where alcohol-water solutions were injected intravenously to relieve pain. Doctors state that patients have no "doped" feeling, but rather a sense of well being.

The physicians anticipate that it may be possible to eliminate entirely the use of opiates and other sedatives in postsurgical cases by steady injection of an alcohol-water solution over a 24-hour period. Unlike opiates, alcohol does not lower respiratory activity. Also, again as distinct from opiates, it tends to dilate blood vessels rather than constrict them, so that injecting patients with heart trouble is recommended by the doctors as an aid in the use of anesthetics.

An added advantage of the alcohol therapy, especially in cases where patients have been weakened by their illness, is that alcohol has a nutritional value because it is quickly converted into energy by the body.

New Theory: Reduction, Not Oxidation, Causes Paint Deterioration

A reducing action, rather than oxidation, may be the cause of paint deterioration, according to a new chemical theory. Evolved in work on auto finishes, the new theory may also apply to house paints and other protective coatings.

It was thought in the past that the dull film or "chalk" that sometimes develops on auto finishes was caused by combination of the lacquer or enamel materials with oxygen of the air. In tests, lacquer and enamel films were subjected to hydrogen peroxide to see if it would hasten the process, but the attempts failed. Realizing that under certain conditions hydrogen peroxide may act as a reducing agent, the researchers set up these conditions by smearing water or a wetting agent on the test panels, whereupon "chalk" formed in a matter of minutes.

Develop More New Uses For Polyvinyl Pyrrolidine

A new polyvinyl pyrrolidine product, to be used by dyers for removing color from textiles and said to have no harmful effects, has been placed on the market, a German company reveals. Another new polyvinyl pyrrolidine product for use as a laundry cleaning agent is reported in the experimental stage. Other experiments are in progress for improving medicinal and other products made with polyvinyl pyrrolidine.

New Booklet Reviews Fertilizer Technology

Special articles reviewing the activities of the Tennessee Valley Authority in fertilizer technology are featured in a recent issue of a government bibliography of technical reports. Chemical plant facilities are described and research work with phosphates, nitrates, and potash is covered. Also listed are currently available chemical engineering reports on the subject.

Southern Dealers to Show New U.S.I. Sound Movie On Pyrenone Grain Protectant

Insect Infestation Problem in Stored Grain Is Dramatized To Farmers by Cartoon Character 'Wicked Willie Weevil'

A 16 mm sound movie film that will run about 15 minutes is being readied for showing by Pyrenone Grain Protectant dealers throughout the South. The film features a cartoon character called "Wicked Willie Weevil."

Wicked Willie Weevil tells the story of insect damage to stored grain and how Pyrenone Grain Protectant stops it. The film uses this cartoon character to dramatize to farmers the seriousness of the insect problem to stored grain in the South. The film will be shown

Most southern corn cribs are of open construction. Insects have little difficulty stealing corn from farmers when it's so easy to enter the crib.

MORE

Bond Silicone Rubber To Steel, Other Surfaces

A method of joining silicone rubber to steel and other surfaces in a permanent bond stronger than rubber itself, has reportedly been discovered. Key to the process is said to be a thin, glue-like "primer," which forms a strong bond between silicone rubber and many surfaces besides steel, including glass, ceramics, aluminum, tin, and copper. Development of the primer is expected to increase the usefulness of silicone rubber in structural combination with metals.

To produce the bond, the liquid primer is brushed or sprayed on the metal or glass surface to be joined to silicone rubber. After drying, the surfaces are placed together and light pressure is applied at about 250°F. The resulting bond is claimed to withstand temperatures from −85°F. to 500°F. In laboratory experiments, the bond has shown a strength of about 700 pounds per square inch of holding area.

Possible applications include engine and shock mounts and heavy-duty washers or gaskets, for industrial applications, made of glass fibre bonded between layers of silicone rubber.

New Chemical Skin For Wrapping Foods Is Edible

A new edible skin for wrapping food products, said to seal in odor and flavor, to keep out moisture, and to be comparatively resistant to bacteria and mold, has been developed. Chemically the new skins are known as acetostearins and are prepared by direct acetylation of monostearin with acetic anhydride. These acetostearins, claimed to be relatively stable, solidify to a flexible but non-greasy solid. Over half of the acetostearins prepared by the chemist responsible for the development stretched over 800% at 22°C., and no cracking was observed at temperatures as low as 4°C., according to his report. The acetostearins are said to be as easy to apply as paraffin.

Germans Synthesize Carotin

A process for making synthetic carotin for use in vitaminizing and coloring margarine has been developed by a German scientist. Work is now underway to adapt the laboratory synthesis to commercial production.

Colloid Chemicals Prevent Kidney Stone Formation

A new method of preventing formation of kidney stones is being based on the theory that growth of these crystal deposits in the kidneys is prevented in normal persons by the presence in the urine of certain types of colloid. Research indicates that the stones are most prevalent in people lacking these colloids. Various types of colloid will gel at certain concentrations and prevent mineral matter in the urine from crystallizing. Results obtained thus far from injecting colloidal agents into the body are described as very encouraging.

Synthesize Plant Sugar Outside of Plant Cell

For the first time plant sugar has been produced outside of a plant cell according to a recent report by a university scientist. When a test tube containing a mixture of water, carbon dioxide, and various substances taken from hog and pigeon livers and from plant leaves, was exposed to light, the mixture was transformed into plant sugar, it is claimed.

CONTINUED

New U.S.I. Sound Movie

at a series of dealer-farmer meetings to be held in southern towns before harvest season. While the film will be the main feature of the meeting, it is anticipated that individual dealers will arrange for local entertainment and serve refreshments to insure good attendance.

The new movie tells the story of Pyrenone Grain Protectant quickly and effectively. The

Insect infested corn has lost so much of its food value that it is practically worthless for livestock feeding.

mass showings that the film makes possible will enable U.S.I. to introduce its new Pyrenone Grain Protectant to a large number of people in a short time.

Requests Pour in for 'Quart Jar Test' Kits

Another item that has been creating a tremendous amount of interest among southern farmers and dealers is the "Quart Jar Test" kit. This kit contains a sample of Pyrenone Grain Protectant and other necessary pieces to set up a small-scale test. To make the test, the farmer shells corn from his crib into two one-quart mason jars. He treats the corn in one of the jars with Pyrenone Grain Protectant and leaves the other untreated. Within 30 to 60 days the farmer can see clean corn, with a few dead insects visible, in the treated jar, while the untreated one swarms with live weevils.

Requests for the Quart Jar Test kits have been pouring in to U.S.I. and are positive evidence of the urgent need for a product that will control stored grain pests.

New Condensation Method Produces Vinyl Polymers

A new condensation procedure, now in the laboratory stage, reportedly has possibilities for use in producing vinyl polymers. In the laboratory, condensation of formaldehyde with the following compounds is said to have given these high yields of monomethylol derivatives: with acetone, 84%; with methyl ethyl ketone, 91%; with diethyl ketone, 75%, and with nitromethane, 64%. Reactions were carried out, it is claimed, by refluxing an activated compound like methyl ethyl ketone from a heated flask into a fractionating column packed with glass helices. Formaldehyde and sodium hydroxide catalyst were added slowly at the top of the column, and a large excess of ketone over formaldehyde was maintained in the reaction zone, according to the report. The monomethylol derivative is said to have been removed from the reaction zone by continuous rectification before self-condensation or secondary actions could take place. The sodium hydroxide is reportedly neutralized in the boiling flask to prevent further aldol condensations.

Use Electron Bombardment To Cause Polymerization

The possibility of making solid plastics from liquid raw materials by bombarding them with high-voltage electron beams is foreseen as a result of recent experiments reported by two scientists. Chemical means are usually used to initiate polymerization, but the scientists have found that a beam of electrons with energies of 800,000 volts, brought into the open air, is also able to cause such polymerization.

Most of their experiments were performed with tetraethyleneglycol dimethacrylate but they stated that various other compounds could similarly be polymerized with cathode rays. Among these, it is claimed, are styrene, acrylonitrile, and methacrylates. The recent experiments were performed with a modified million-volt X-ray machine.

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U.S.I.

A new type adhesive to meet storing and shipping needs reportedly will seal tight and open easily. Used now in palletizing, it is described as strong enough to hold stacked merchandise and as breaking clean and fast in unstacking. **(No. 719)**

A new refractory coating, said to give a smooth, hard surface for greater reflection of heat and to lengthen life of firebricks, is easy to apply by brush or spray, and will not crack off or flake, the makers state. **(No. 720)**

A new joint sealing compound is claimed to hold carbon tetrachloride, ethylene dichloride, benzene, toluene, xylene, propane, chloroform, methyl chloride, and many other difficult-to-hold compounds. **(No. 721)**

A new coating for polystyrene plastics, designed for use on the reverse side of clear plastics, gives a finish almost as brilliant as plating or metalizing, according to the manufacturers. **(No. 722)**

A new primer that wets rust is reported capable of locking paint film — particularly vinyls — to surfaces having adherent rust. Compatible with all finishes tried on it thus far, it reduces splitting of top vinyl finished to nearly zero, the makers claim. **(No. 723)**

"Electric sheets" of white, maize, blue, or pink mercerized broadcloth are on the market. Made with either single or dual controls, the sheets will operate from any 115-volt AC outlet. **(No. 724)**

For measurement of dry film coatings, a new easy-to-use, fast reading, self-contained gage requiring no outside source of power is reported available. Results are said to be independent of composition or thickness of base on which the coating is being measured. Base need only be electrically conductive. **(No. 725)**

A new vinyl plasticizer for use in sheeting, wire covering, shoe soles, and other compositions that must withstand severe flexing and stretching, is claimed to impart flame retardance and to have high permanence on heat aging and aging in water, gasoline and oil. **(No. 726)**

New chemical resistant bags for shipping and storing organic substances like foods and fertilizers and many other chemicals are described as economical, easy to print, and highly resistant to water vapor. Made of paper coated with odorless and tasteless polyethylene resins, the bags are said to be strong and durable and to keep packaged foods fresh. **(No. 727)**

Crystal-clear bonding of white styrofoam is reported possible using a vinyl-based cement now in use for cementing other plastics. This cement answers the need for an efficient, water-white, non-staining adhesive, it is claimed. **(No. 728)**

PRODUCTS OF U.S.I.

ALCOHOLS
Amyl Alcohol (Isoamyl Alcohol)
Butanol (Normal-Butyl Alcohol)
Fusel Oil—Refined
Propanol (Normal-Propyl Alcohol)
Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof U.S.P., Absolute—200 Proof
Solox*—proprietary solvent—regular and anhydrous
ANTI-FREEZE
Super Pyro* Anti-Freeze
U.S.I. Permanent Anti-Freeze
ANSOLS
Ansol* M
Ansol* PR
ACETIC ESTERS
Amyl Acetate—Commercial and High Test
Butyl Acetate
Ethyl Acetate—all grades
Normal-Propyl Acetate
OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate
PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate
OTHER ESTERS
Diatol*
Diethyl Carbonate
Ethyl Chloroformate
INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-chloroanilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloroanilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
ETHERS
Ethyl Ether, U.S.P.
Ethyl Ether, Absolute—A.C.S.
ACETONE — A.C.S.
FEED PRODUCTS
Curbay B-G*
DL-Methionine
Riboflavin Concentrates
Special Liquid Curbay*
U.S.I. Vitamin B_{12} and Antibiotic Feed Supplements
Vacatone* 40
RESINS (Synthetic and Natural)
Arochem*—modified types
Arofene*—pure phenolics
Aroflat—for special flat finishes
Aroplaz*—alkyds and allied materials
Congo Gums—raw, fused and esterified
Ester Gums—all types
Natural Resins—all standard grades
INSECTICIDE MATERIALS
CPR Concentrates: Liquid & Dust
Piperonyl Butoxide
Piperonyl Cyclonene
Pyrenone* Concentrates: Liquid & Dust
Pyrethrum Products: Liquid & Dust
Rotenone Products: Liquid & Dust
INSECTIFUGE MATERIALS
Indalone*
Triple-Mix Repellents
OTHER PRODUCTS
Collodions
Ethylene
Nitrocellulose Solutions
PiB*—Liquid Insulation
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with penicillin. Apparently, chloramphenicol interferes only with the early bactericidal effect of penicillin, probably by modifying the characteristics of the bacterial population so as to make it less susceptible to penicillin. Drugs synergistic with penicillin, such as streptomycin or bacitracin, can overcome the antagonism between chloramphenicol and penicillin.

Adenylic Acid for Pruritus

The usefulness of the sodium salt of adenosine-5-monophosphate, also known as muscle adenylic acid, for the control of pruritus is indicated in the studies made by A. M. Susinno (*Amer. Pract.* 2:491, 1951). He found that of 66 selected cases of severe intractable pruritus associated with a variety of causes and followed for one year or more, 38, or 57.6 per cent, have obtained consistent clinical improvement with adenylic acid, given sublingually or intramuscularly. Twenty-two, or 33.3 per cent, were considered therapeutic failures because of obvious unresponsiveness or because initially good results could not be reproduced subsequently. Six, or 9.1 per cent, obtained lesser and varying degrees of relief or else have not relapsed to permit further evaluation to therapy. This mixed group has been given an equivocal therapeutic rating.

Susinno feels that the percentage of encouraging results obtained is high enough to warrant further study of adenosine-5-monophosphate to elucidate its role in the control of some types of pruritus.

Combined Antibiotics for Atypical Pneumonia

F. P. King (*Ann. Int. Med.* 34:141, 1951) reports striking improvement in 10 cases of atypical ("nonbacterial") pneumonia following treatment with 2 Gm. of streptomycin daily and varying dosages of penicillin. Penicillin, usually 50,000 units every three hours, was administered, without effect on the patient's temperature, before streptomycin was given in a dose of 0.5 Gm. every six hours. In most cases the patient became afebrile within 24 hours after streptomycin was started. Chest symptoms cleared more slowly, although patients "felt well." Streptomycin therapy was continued for from five to six days, and penicillin was usually administered throughout this period. In each case sputum cultures and in most cases blood cultures were made before antibiotic therapy began. No pathogenic organism was found.

Cortisone in Eye Diseases

In the *British Medical Journal* (1:1285, 1951), F. S. Lavery and his colleagues report that cortisone is of value in a variety of eye conditions when administered as a subconjunctival injection or as eye drops or ointment. It was of particular value in treating interstitial keratitis and in controlling allergic reactions in the eye, though it had no effect on the underlying disease. Intramuscular injections were successful in two cases. For instillation 2.5 per cent suspensions of cortisone in saline was used. The ointment used by investigators contained 2.5 per cent cortisone acetate in a bland base. Subconjunctival injections were painless if the site of injections had been previously anesthetized by the application of a plug of cotton soaked in 2 per cent butacaine solution.

In the same issue of this journal (p. 1289), G. O. Horne described the beneficial effect of the topical application of cortisone in five cases of syphilitic ocular disease (iridocyclitis and interstitial keratitis). The cortisone was used as a suspension (5 mg. per ml. of normal saline), one drop being instilled three-hourly.

Of related interest are the findings of R. L. Dickey (*Delaware State Med. J.* 23:11, 1951), who reported that the treatment of anterior tract uveitis with local instillations of a 20 per cent solution of cortisone is efficacious. Posterior tract uveitis should be treated with systemic administration of the drug. Although other papers have reported favorable results in the treatment of acute choroiditis, the results obtained in the treatment of two cases were not encouraging. In general, it appears that cortisone drops may be used in the eye for long periods of time without apparent complication.

Antivirotics

According to a note in *Modern Medicine* (19:142, July 15, 1951), antibiotics with specific potency against virus diseases have been isolated by S. A. Waksman and his associates. They describe two substances with slight but definite effect on viral activity in animals. Viscosin, a product of *Pseudomonas viscosa*, modifies influenza and infectious bronchitis of chickens. Crude preparations of erlichin, derived from *Streptomyces lavendulae*, will reduce influenza in chick embryos and mice. Lung consolidation of treated rodents was less than without therapy on the fourth day after infection. Though these antivirotics do not seem to be of practical value in treating human disease, isolation of antibiotics effective against true viruses now seems a possibility.

Aureomycin Ointment

The successful use of a simple aureomycin ointment, consisting of 1.0 Gm. of aureomycin in 33 Gm. of petrolatum or Carbowax, in 70 cases of skin affections is reported by G. Garnier (*Presse Med.* 59:542, 1951). The cases included infected wounds and leg ulcers, intertrigo, staphylococcal folliculitis, sycosis, streptococcal impetigo, parakeratosis, and pemphigus. Garnier states that in most cases of infective dermatosis, acute or subacute, if the aureomycin ointment is going to prove effective the action is rapid, within a few days; if there is no improvement within five to seven days it is useless to continue. In chronic lesions, however, the treatment should be continued at intervals, for example, daily for ten days, and then three applications weekly, as in a case of chronic sycosis in which healing was obtained within six weeks. The ointment was well tolerated in all cases, except one, in which there was sensitivity to the petroleum jelly base.

Vitamin K in Dysentery

A potentially important use for vitamin K is indicated by M. F. Krause (*Hospital* 39:315, 1951 through *J. A. M. A.* 146:1079, 1951). He administered the vitamin to three series of adult patients with bacillary dysentery. In the first series of six patients the intramuscular injection of pure vitamin K had no effect on the disease. In the second series of four patients, the oral administration of 5 to 10 mg. of vitamin K with bile salts, four times daily, resulted in cure in three days. Still better results were obtained in the last series by the oral administration of vitamin K without bile salts. The drug was given in doses of 10 mg. every two hours for two days. Cure was obtained on the first day of the treatment. The patients were discharged from the hospital on the third day. The drug was well tolerated. Krause concludes that (1) vitamin K kills *Shigella disenteriae* or (2) bacilli of the coli group lose in certain circumstances the capacity of producing vitamin K and that this loss results in decreased resistance of the host to *S. dysenteriae*, increased virulence of the organism, or actual transformation of bacilli of the coli group into virulent bacilli of the dysenteric and paradysenteric group.

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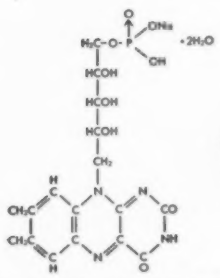

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PROPERTIES: *Solubility in water more than 100 times that of riboflavin.* A synthetically prepared yellow powder resembling riboflavin. Contains small amounts of disodium salt. Riboflavin content 70-72%. Fluorescence, color intensity and biological activity identical with riboflavin on a molar basis. Stability approximately that of riboflavin. Phosphate ester group very resistant to hydrolysis.

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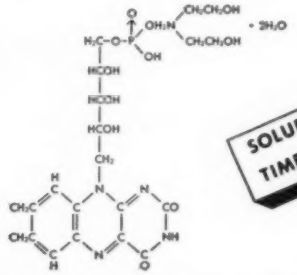

SOLUBILITY MORE THAN 200 TIMES THAT OF RIBOFLAVIN

Empirical Formula: $C_{21}H_{32}N_4O_{11}P \cdot 2H_2O$

PROPERTIES: *Solubility in water more than 200 times that of riboflavin.* Riboflavin content 61-63%. Properties in other respects similar to those of riboflavin-5′-phosphate sodium.

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Abreast Of The Markets

Markets Inactive As Summer Draws to End; Botanicals And Essential Oils Expected To Pick Up Next Month

The botanical market was especially quiet last month and was closely followed in inactivity by the essential oil and chemical markets, as the late-summer lull in business appeared. There were several advances in the essential oils, but these were mostly due to local conditions, such as bergamot, in Italy, Java Citronella, and lime oil which is derived from Mexico and the West Indies.

In most cases the reason for the sluggishness in the markets was also that consumers were postponing buying anything until they could see more definitely the outcome of the war in Korea. They had bought so heavily a year ago after the outbreak of the war that they were still using these supplies and were quite anxious to decrease the size of their inventories even more. It does not seem likely that there will be another sudden rush to stock up heavily, should a second emergency arise, for the belief is that the world will be in an unsettled state for quite a while. Nothing short of a third world war could scare buyers into another frenzied buying spree such as that of last year—and every one is hoping, and trying to believe, that the worst, if it comes, will be a series of smaller wars on the order of Korea, rather than an all-out struggle.

It was the over-all concensus in the trade that business would become brisker by the middle and end of September when consumers begin preparing for the winter months.

Some spokesmen in the trade were becoming quite concerned about the apparent sluggishness of the market in the United States, while at the same time prices at the origin were inching up. This meant that although certain items were being sold at a normal profit last month, this profit would automatically become a deficit when the dealers re-enter the replacement market in order to replenish their stocks.

If, for example, a certain botanical had previously been imported by a dealer at 65c a pound, or $65 for a 100-lb. bale, and this dealer had sold the material for 85c a pound, he would originally have been making a profit of $20 a bale. In the meantime, however, suppose the replacement cost was known to have advanced to 95c a pound. The dealer, feeling that he had ample 65c material on hand, reasoned that replacements were a long way off, and he had better maintain the price of the item at 85c, fearing that if he advanced it to cover future replacements, he might lose some immediate business.

To make the situation even clearer, suppose now that the dealer put all this money which was derived from his $20-per-bale profit in the bank. On paper he would be making considerable money, but inexorably that day would come when he would have to withdraw that money from the bank to buy new material. At that future date, not only would he have to spend the original 65c a pound he spent for the former shipments, but he would also have to spend his 20c profit derived from each pound, and in addition to that, another 10c, out of his own pocket, in order to meet the new replacement cost of 95c.

By following this procedure, the dealer may have succeeded in keeping his customers, as was his initial desire, but he would be doing it at his own expense. When he starts to buy replacements, he will realize that all of his theoretical profit which had appeared on paper had been quickly used up, and instead of making a profit of $20 per bale, he would be spending his former profits and losing $10 a bale besides.

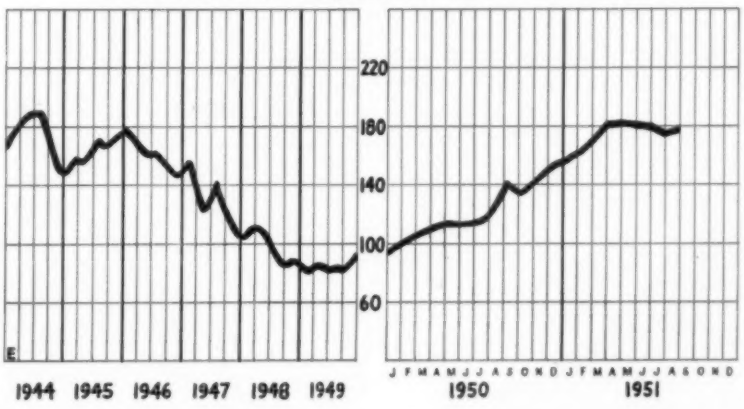
Some sources in the trade, therefore, feel it is wiser to advance spot prices ahead of the time when they they have to make replacements, and advance them in proportion to the increased replacement costs of the commodities.

Condition of Botanical Sources

The future stability of the botanical sources depends almost entirely on the intentions of the U.S.S.R., just as the current unrest of the markets has been brought about by its past actions. Even if there is a peaceful settlement of the Korean war in the next month or two, it does not seem possible that Chinese items such as anise seed star, rhubarb, anise oil and cassia oil will be reduced very much in price within the next year. First, the war-torn areas will have to be cleaned up, the ground

(*Continued on page 386*)

15 Essential Oils—Weighted Price Index. 1926 = 100.



The essential oils index went up slightly from 175.0 to 177.5. Bergamot and lime oils were higher; Cananga oil was lower.

Prices quoted in this section were current on the first of this month.

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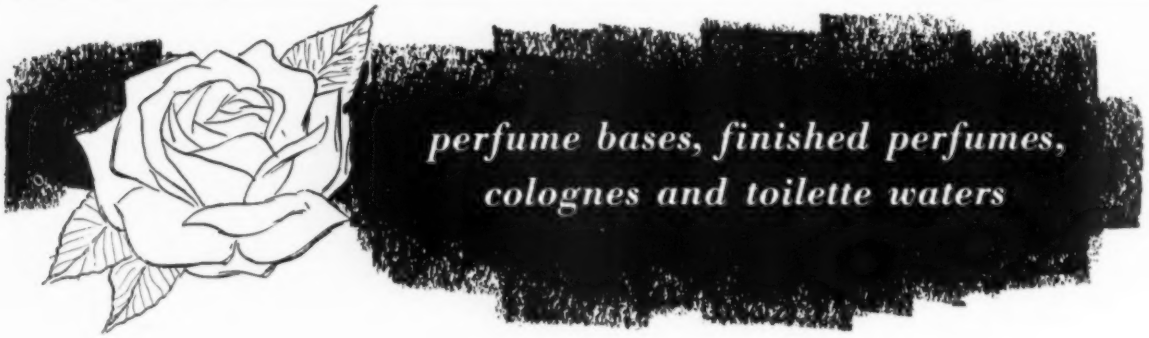

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Menthol Still Very Sluggish; Glycerine and Alcohol Maintain Steady Flow; Castor Oil Reported Scarce

Demand for menthol in August remained true to the recent pattern by being hardly noticeable. Reports had it that consumers were still using that material they had purchased prior to the Chinese embargo and were not the least bit interested in re-entering the market yet. Japan was offering material at about $11 c. i. f. Menthol on spot ranged from $10.60 to $11.25. There did not seem to be much chance that the price would decline any further in view of foreign efforts to hike their quotations. Another strengthening feature is the approach of the winter months when many of the consumers will jump into the market at the same time.

No Change in Glycerine

The price of glycerine has not wavered from the 55¼c level which has been in effect for a number of months, and there was no telling in August what will happen later in the year when the country's defense plans are stepped up. Right now, demand in the trade is termed as "not too heavy" with ample stocks to take care of regular customers.

One development which is expected to have a firming effect on the crude glycerine market is the bid for some 400 tons of dynamite grade material issued by a European country, presumably Italy.

While several large soap producers cut wholesale prices in household soap products, this would at first seem to indicate that glycerine quotations would be similarly reduced; however, spokesmen in the trade do not believe the glycerine reduction will follow.

Cod Liver Oil Outlook

With the supply of cod liver oil more than adequate, the price range has been maintained from $1.90 to $2 for several months. In this commodity, too, consumers are waiting to see the outcome of world affairs before making any purchases.

Alcohol Supply Remains Steady

While the alcohol supply is sufficient for the present, as far as the cosmetic and drug fields are concerned, the supply position is expected to become much tighter in the fall months, especially if the government's defense program continues as scheduled. No price declines are expected now, or for the rest of the year, in view of the high raw-material costs. On the other hand, there may be an upward movement should the freight rates be increased, as is expected.

One reason for the easing off of the alcohol market may have been the large imports in the past year (July 1, 1950 to June 30, 1951) which, according to the Alcohol Tax Unit, amounted to a total of 200,379,401 proof gallons of undenatured. Most of this alcohol, it has been reported, was imported by the government for use in the synthetic rubber program.

The alcohol tax unit of the Bureau of Internal Revenue, Treasury Department, released the following data on August 3 on the supply, production, withdrawals and stocks of ethyl, completely denatured and specially denatured alcohol during the month of June, 1951, as compared with June, 1950.

Production

	Proof gallons	
	1951	1950
Ethyl	35,766,800	31,102,328
*Completely denatured	102,468	81,966
*Specially denatured	23,219,275	19,064,388

Withdrawals

	Wine gallons	
	1951	1950
†Ethyl, tax paid	1,161,235	4,187,697
tax free	41,234,294	39,949,087
*Completely denatured	116,744	74,823
*Specially denatured	23,827,006	18,442,139

Stocks

	Gallons	
	1951	1950
†Ethyl	99,683,431	23,247,967
*Completely denatured	45,856	85,961
*Specially denatured	8,747,344	2,012 789

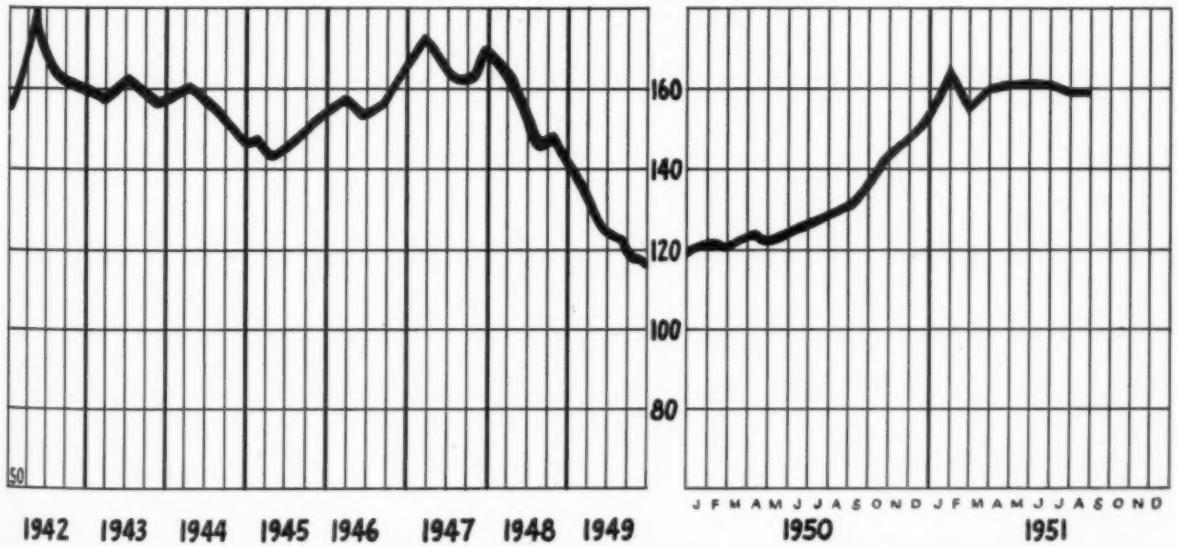
*Wine gallons. †Proof gallons.

Castor Oil Still Scarce

Castor oil U.S.P. remained at 33½c last month, with reports to the effect that the beans were still scarce. Demand for the oil was at the same time very quiet. From the first of 1951 to the middle of August 111,664,750 pounds of castor oil beans were imported into this country, in comparison with 132,954,450 pounds during the same period in 1950.

As for castor oil, 76,686,496 pounds were imported into the United States from January, 1951, through the middle

50 Raw Materials—Weighted Price Index. 1926 = 100.



The price index of fifty commodities for August remained at 159.0. Medicinal chemicals were down and essential oils up.

August Price Changes

UP

Almond oil, Bitter 50c
Bergamot oil $2.50
Calamus Oil $5
Cananga Oil, Native 75c
Rectified 75c
Candelilla Wax 4c
Citronella Oil, Java 15c
Grapefruit oil 25c
Karaya Gum 9c
Lime Oil, Distilled $1
Expressed 50c

DOWN

Arabic Gum, White No. 1 3c
Balsam Peru 35c
Cod Liver Oil 10c
Menthol 40c
Mercury $10
Montan Wax 1¼c
Ouricury Wax 11c
Tragacanth Gum 35c
Vanilla Beans, Bourbon 25c

of August, as compared with 20,263,084 pounds last year.

Bois de Rose Oil Unchanged

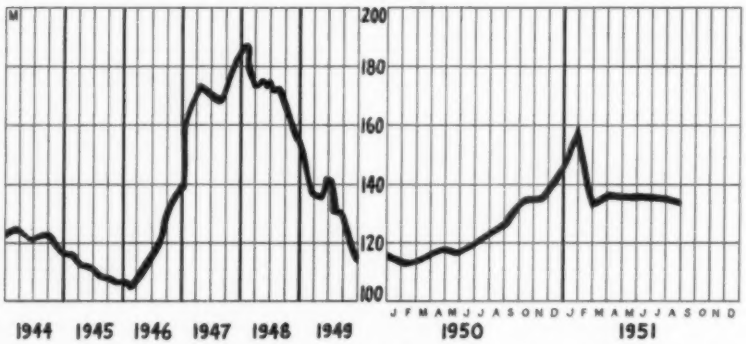
The spot market of bois de rose oil held firm at the $4.75 level in August, but a few reports in the trade indicated that a possible shortage might develop later in the year. Shippers are said to have already estimated the yield of oil for this year, since the rosewood logs, from which the oil is derived, were floated down the Amazon river during the flood season from April to July earlier this year. Apparently the number of logs was less than had been anticipated. In any event, although there is at present ample material on spot, a lower price of the oil seemed highly improbable, especially in view of the $4 floor price established by the Brazilian government.

Botanical Sources

(*Continued from page 383*)

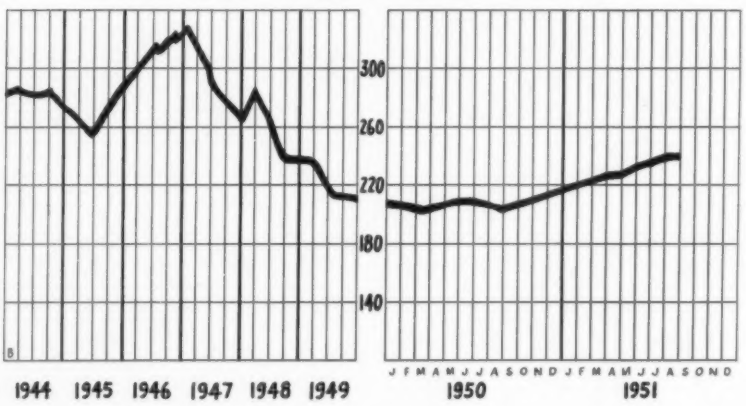
replanted and cultivated, and a new crop begun. Land transportation will have to be restored to shipping ports, and producers will have to build up a backlog of material before they set up a normal flow of goods, in order to assure a steady business. While China right now undoubtedly has sizable quantities for shipment as a result of the recent blockade, these will probably be depleted as soon as free commerce is restored.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index dropped slightly from 135.1 to 133.6. Menthol and mercury were lower.

15 Botanicals—Weighted Price Index. 1926 = 100



The botanicals index remained at 239.8. There were no changes.

Since the Middle East may be the next danger spot of the world, if Russia chooses to begin another fringe war, products derived from this area may be endangered. Licorice root, juiper berries, and aleppo nut galls, for example, would be seriously affected and their shipments from Mediterranean ports halted.

In Central Europe the labor supply is at its lowest point. What used to be called marginal labor—those men who migrated from one job to another as their services were required—no longer exists, as all the countries east of the Iron Curtain must place their labor pools at the disposal of the Red masters, who in turn channel them mostly into the war industries. They have no time to work on such non-essential projects as digging up roots or collecting leaves. Some of those botanicals from this area include belladonna, calamus, henbane, strammonium leaves, adonis vernalis, calendula, althea root, and horehound herb. These, and others, are still available, but in reduced amounts. What shipments are released to the western world must first pass over the usual economic obstacles and restrictions.

It is mainly for these reasons that replacement costs are expected either to remain at the present level or increase from time to time. The instability of world conditions will keep prices from falling.

Quicksilver Down, Demand Off

The quicksilver market remained very much on the quiet side last month, with a reduction in price in some quarters to $195 per flask, ranging up to $205, which represented the price for single flasks.

Imports of the metal up to August 1 of this year amounted to 20,922 flasks, while the number of flasks imported during the entire year 1950 was 60,564. There was a marked increase in the size of imports following the outbreak of war in Korea last year. This indicates that import figures, and domestic production of the metal may increase greatly once the government goes ahead with war contracts.

Eucalytpus Oil Steady

While there has been no change in the price range of eucalyptus oil from that of $1.40 to $1.60, labor costs in Australia are said to have risen considerably, with the result that shipping costs may be advanced any time. This item has been sluggish during most of the summer, in step with previous years.

Vanilla Beans Picking Up

Demand for vanilla beans has been picking up during the last two or three months, although this increased activity has not been reflected up to the present time in the prices. Bourbon beans, in fact, have fallen off 25c and are now selling for $3, while Mexican cuts are still quoted at $5, and Mexican whole beans, at $5.75.

Anise Oil Stocks Plentiful

The price of anise oil remained steady last month, ranging from $1.90 to $2.20, and the available supply was more than adequate as potential buyers continued to stand by and await the outcome of the Korean truce meetings. The fact that there was absolutely no anise oil available from China seemed to make no difference in the spot market which remained very quiet.

Lemon Oil Still Short

California Lemon oil was still being quoted last month at $5, and the oil supply from that source was slight but steady, with essential oil houses reporting they could have sold far larger quantities, had the oil been available. The Italian lemon oil continued to remain out of the picture because of its high price range which extended from $5.50 to $8.

Lime Oil Higher

The price of distilled lime oil climbed from $7.50 to $8.50 as buying increased and the supply grew smaller. Both the Mexican oil and the West Indian oil were in very short supply.

Citronella Oil Up

Java citronella oil went up 15c in August to the range between $2.20 and $2.50, and there was an absence of offers. Similarly there were very few offers from Ceylon in response to dealers in this country.

West Indian Oils Endangered

It is still too early to tabulate the extent of the damage wrought by the hurricane which swept over Jamaica last month. Reports coming through indicated that some of the plantings from which the oils are derived may have been killed. By the end of the month suppliers in the United States were limiting sales of pimento leaf and lime oil especially, since these come from the Jamaica area. Others which may have been affected are orange and bay oils.

Orange Oil Available

Some producers of orange oil in California were reported offering the oil for $2.50 a pound last month, while the majority of producers were still quoting the regular $2.75 price. Florida oil continued in very limited supply and ranged up to $2.80 per pound. Oil from the West Indies and From Italy was available in small quantities from a few dealers.

Mint Oils Firm

Spearmint oil remained strong last month, ranging from $5.50 to $6.50, while natural peppermint oil remained from $7.85 to $8.25. Reports indicated that these oils have remained firm because of a rainy season which delayed their distillation.

Geranium Oil Remains Firm

There were a few reports last month of Bourbon geranium oil being quoted at $30, while others offered $28 on the inside and $36 at the upper range. Because there is hardly any demand for the item at the present time, the price has managed to remain quite steady. There is a very limited supply of the Bourbon oil available, and an even smaller amount from Algeria. Should demand for the oil pick up suddenly, the price will probably advance just as sharply.

Little Activity in Cocoa Butter

Although there was more than enough cocoa butter on hand last month to meet the demand, this condition was not expected to last, in view of the anticipated demand during the autumn months. The price ranged around 66½c a pound last month.

Patchouli Stocks Large

The price range of patchouli oil became quite extensive last month, extending from as low as $14.50 in some quarters to $22 in others. Stocks were large, according to spokesmen, who indicated there was very little interest in the material at that time, in spite of the comparatively low figures.

Ipecac Root Supply Limited

The price of ipecac root was maintained at $6.50 last month, with no sign of a change either way, although the root was said to be in a very limited supply.

Digitalis Crop

Two varying reports on the coming digitalis crop were circulated in the trade last month. One indicated that there had been ample rainy weather which was highly beneficial for digitalis growth, with the result that a superior crop was expected this year. Another report stated that the crop was expected to be a normal one. The price of the material ranged from about 90c to $1.

Carnauba Wax Unchanged

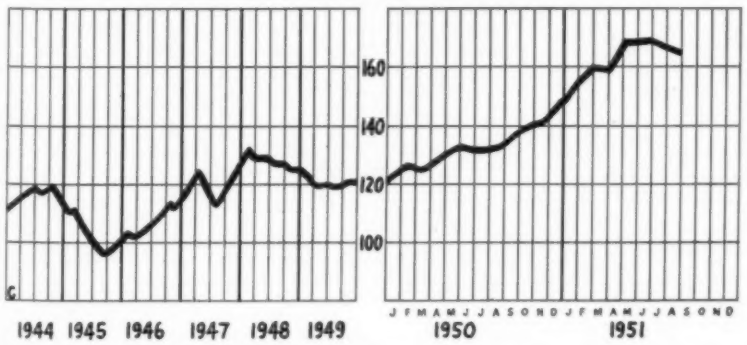
Up to the end of last month there were no signs of activity in carnauba wax, although the immediate outlook appeared in doubt. It was reported that there were about 400 or 500 tons of material on hand which would have to last until the first part of next year when the new crop is available.

Candelilla Wax Very Active

Owing to a scarcity of candelilla wax at the origin, the market has become quite firm, with the quotation ranging from 75c to 77c for the crude material, and from 80c to 82c for the refined. Dealers believe the situation will be eased considerably after November when the new season begins.

A few special grades of ouricury were slightly firmer and ranged from 84c to 86c.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



The cosmetic raw materials index went down from 167.1 to 164.8. Arabic gum, Balsam Peru, candelilla wax, menthol, and tragacanth gum were lower.

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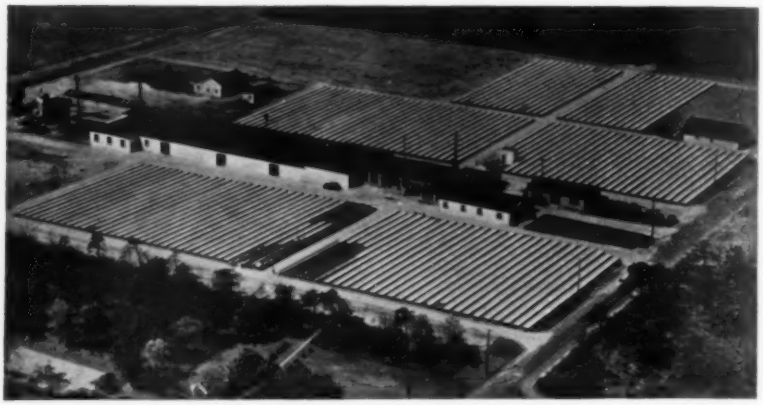

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by John H. Graham

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Watchfulness Is Vital to Trade-Mark Protection!

The average owner of a trade-mark never seems to realize how necessary it is to watch for possible infringing acts. Usually he goes through the throes of choosing a mark, using it, paying large fees for designing, packaging, etc., and then comes advertising. Finally, he will have it registered in most cases, and that is that. But this is not enough! The dangers of others using the same or a similar mark for goods of the same or a similar kind are great. When he is warned of such a specific encroachment he is apt to adopt a "Manaña" attitude. He feels the mark is too young or not enough established, or a dozen other reasons for delay appear. Thus, the matter is put on one side and eventually forgotten.

When the day comes, however, that the encroachment has gotten out of hand, he suddenly wakes up and yells for action. Then it may be too late. There exists a large number of decisions which cover this question of delay in taking action. In case these seem too remote from your industry and from your day and age, a recent case, decided June 20, 1951, will be enlightening.

The facts of this case are that Elizabeth Arden Sales Corporation own trade-marks such as "Elizabeth Arden," "Ardena" and "Arden" which have been registered in some cases as far back as 1937 and have been used for many years before that, right back into the early "20's." While the predominant goods sold under these marks have been cosmetics, sales have been made in the many Arden Salons throughout the United States of various articles of women's wear and accessories including lingerie, dresses, evening wear, bags, jewelry, etc., under these marks.

In December 1947, the firm of H. Bomze & Bros., Inc., filed application to register "JUNE ARDEN" for ladies and misses coats, suits and dresses under the Act of 1946. Bomze also owns a trade-marks registration dated in 1937, under the old 1920 Act, for the same notation and goods. The goods of Bomze have been sold under the "JUNE ARDEN" label since 1937, extensively and their sales have been growing yearly.

Elizabeth Arden Sales Corporation opposed the 1946 application and asked for cancellation of the 1920 registration. The Examiner of trade-mark Interferences decided against Elizabeth Arden, who then filed an appeal. Assistant Commissioner Klinge, who heard the appeal, affirmed the Examiner's decision.

Some of the statements made in this case are worthy of careful examination. Mainly, while Elizabeth Arden was able to prove sales in the same field as Bomze, namely, women's wear, as early as 1920, opposer's (Elizabeth Arden's) business in that field was held to be either sporadic or inconsequential, while applicant (Bomze) built up a substantial business and especially since such business was built up for 15 years without protest, opponent was defeated. Elizabeth Arden put in extremely strong evidence of sales over the years even though the sales in "coats, suits and dresses for ladies" were sporadic. Negligees and other lingerie and night clothes were sold even more extensively under the various "Arden" labels. But Bomze showed extensive use since 1936 of "June Arden", five million dresses having been sold through 5000 store outlets. Extensive advertising of "June Arden" apparel in the leading Women's fashion magazines and by displays in stores with which Elizabeth Arden also deals, was also proved by the applicant. This, Elizabeth Arden chose to ignore until Bomze attempted a 1946 registration of "JUNE ARDEN" for his goods.

The Court summarized as follows: "If the opposer's (E. Arden's) business in the field of women's apparel was either sporadic or inconsequential while the applicant (Bomze) built up a business which is widely known and very substantial, the applicant should not now suffer the damage of the loss of its mark on its line of goods. There appears to be no question that a successful business using the trade-mark "JUNE ARDEN" for women's dresses was established by applicant and has been in existence for the past fifteen years *without any protest from the opposer*—although goods of the respective parties (i.e. dresses versus cosmetics) are frequently sold in different departments in the same department stores."

Thus, lack of diligence and of vigilance on the part of Elizabeth Arden Sales Corporation has rendered hardship to their own trade-mark situation. Whether or not this matter is appealed further, which is possible, the fact remains that an earlier attempt by Elizabeth Arden to protect its marks might have met with greater and easier success. It is well nigh impossible for any Court to strip Bomze of his now valuable mark "JUNE ARDEN" and "ELIZABETH ARDEN" may go along side-by-side for similar goods and another well known mark, established for many years, becomes diluted by the introduction of a parallel competition. The dangers of lack of watchfulness are very great in trade-mark matters. Tomorrow may be too late!

THE THIRD EDITION OF

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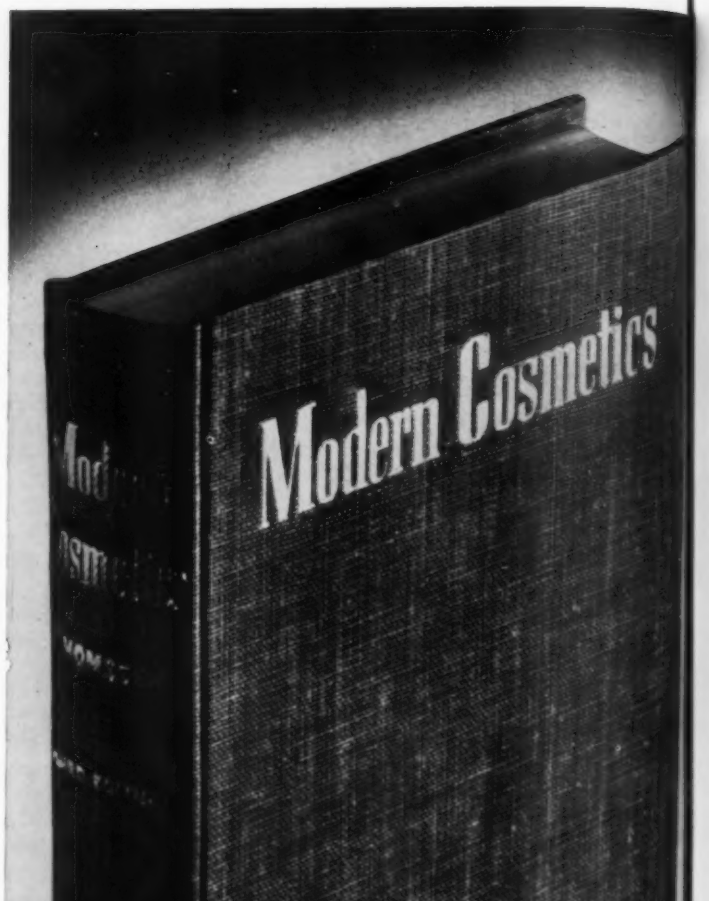

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That "GOODS OF THE SAME DESCRIPTIVE PROPERTIES" Definition

Usually, when goods which are dissimilar are considered as to possible conflict or confusion, one of the tests unofficially adopted is whether they are sold over the same counter or displayed at adjoining counters. We have reported dozens of decisions here, where the whole case turned on this "over-the-same-counter" approach. Actually, as a definition or test, it has been done to death.

As we've said before, a hand cream may be sold in one part of a rural department store at a counter next to a tractor and each may bear the same name or trade-mark. Are the goods then "of the same descriptive properties?" The Patent Office (we hope) may be changing its stance a little on this, if a recent decision holds.

Daggett & Ramsdell Inc., opposed a trade-mark application of Lactona Inc., for the word "DEBUTANSET" for hair brushes, sets thereof and handles. D. & R. relied on their trade-mark "DEBUTANTE" for all forms of cosmetics and particularly upon their method of doing business by selling their products through the agents of Fuller Brush Co., along with brushes. The Examiner dismissed the opposition and Mr. Klinge, Assistant Commissioner of Patents, supported the Examiner upon appeal.

It seems that D. & R. sell all forms of cosmetics through the normal Fuller Brush-man outlets (using female Fullerettes, we believe) and brushes of all kinds are sold at the same time. However, the question of relationship of various different goods was held to involve primarily a consideration of the products themselves and the uses to which they are normally put rather than a procedure of selling conveniently adopted for promotion and sales, i.e., sales from door-to-door along with brushes etc. Despite this specific method of selling, the goods were considered to be only remotely related, even though both are broadly classed as toilet articles. The decision included the following statement: "It is my (Assistant Commissioner's) view that Opposer's cosmetics (D. & R.) for beautifying the skin and applicant's hair brushes used for grooming the hair do not constitute goods of the same descriptive properties, being unalike in composition, physical appeal and utility."

We would like to agree with this but it is too contrary to so many other decisions. It is hoped the matter will be further appealed to obtain a sound case in favor of more freedom in avoiding this conflict of goods and the "over-the-same-counter" doctrine. If this is the new trend of the Trade-mark Authorities it should be applauded. It is a step in the right direction of unshackling trade-mark limitations. But the weight is all in the other pan of the balance at the present time.

All we can do is hope for similar clarification of doctrine so that some day some real yardstick of registrability of trade-marks can be set up.

The following Trade-Marks were recently published in the Official Gazette of the United States Patent Office.

Adele Dulene—51—C—533,718
Adele Dulene Inc., N. Y., N. Y.
Ser. Sept. 8, 1947 D. U. June 1, 1947

Adieu Rides—51—C—577,272
Lancome S. A., Paris, France
Ser. Apr. 16, 1949 D. U. Dec. 28, 1935

Aglow—52—H—569,427
Bonat & Bonat Inc., N. Y., N. Y.
Ser. Nov. 26, 1948 D. U. Dec. 1947

Ardena Sun Gelee—51—C—580,710
Elizabeth Arden Sales Corp., N. Y., N. Y.
Ser. June 18, 1949 D. U. Feb. 1, 1944

Charmis—51—C—603,768
Colgate-Palmolive-Peet Co. Jersey City, N. J.
Ser. Sept. 20, 1950 D. U. May 17, 1950

Creamatizer—51—G—601,394
S. Bonat & Bros. Inc., N. Y., N. Y.
Ser. July 24, 1950 D. U. Nov. 1, 1949

Critic's Choice—51—C—564,133
Lentheric Inc., N. Y., N. Y.
Ser. Aug. 25, 1948 D. U. July 7, 1948

Danamask—51—BC—586,006
Les Parfums de Dana Inc., N. Y., N. Y.
Ser. Oct. 8, 1949 D. U. May 4, 1949

Dermon—44—E—594,387
Rafael Leon, Lambertville, N. J.
Ser. Mar. 22, 1950 D. U. Feb. 2, 1950

Echotroublant—51—B—605,819
Vugny Inc., N. Y., N. Y.
Ser. Nov. 2, 1950 D. U. Apr. 1932

Exidan—51—H—601,511
Quality Chemists Inc., St. Louis, Mo.
Ser. July 31, 1950 D. U. July 21, 1950

Flame—ON—51—CE—587 286
Rejuvia Beauty Labs. Inc., N. Y., N. Y.
Ser. Nov. 3, 1949 D. U. Aug. 31, 1949

Flatter-Pax—3—M—597,128
Helen Cornelius, N. Y., N. Y.
Ser. May 9, 1949 D. U. Sept. 24, 1949

Gail Gordon—51—ABC—561,351
G. G. Thompson, DBA Gail Gordon St. Louis, Mo.
Ser. July 14, 1948 D. U. Jan. 1941

Golo—51—H—589,002
Belle Craft, No. Hollywood, Calif.
Ser. Dec. 8, 1949 D. U. June 1, 1949

Hyetest—51—CM—566,395
Northwestern Drug Co., Minneapolis Minn.
Ser. Oct. 4, 1948, D. U. Nov. 1, 1926

Irish Moss—51—A—586,961
Richard Hudnut, N. Y., N. Y.
Ser. Oct. 28, 1949 D. U. Dec. 1, 1938

Jehu—51—C—508,448
S. A. Parfumerie Vibert Freres, Paris France
Ser. Sept. 3, 1946 D. U. Jan. 9, 1945

John Lusty—51—K—586,755
John Lusty Ltd., London, England
Ser. Oct. 24, 1949 D. U. Jan. 9, 1947

Kali—52—A—587,639
Les Parfums de Dana, N. Y., N. Y.
Ser. Nov. 10, 1949 D. U. Mar. 3, 1944

Kay Daumit—51—D—597,947
Kay Daumit Inc., Jersey City, N. J.
Ser. May 23, 1950 D. U. Mar. 29, 1950

Kay Daumit—52—A—585,157
Kay Daumit Inc., Chicago, Ill.
Ser. Sept. 22, 1949 D. U. May 5, 1949

Kurl-Mist—51—H—581,071
Kurl Mist Inc., N. Y., N. Y.
Ser. June 25, 1949 D. U. Jan. 3, 1949

Lan-O-Ette—51—C—595,101
Florence Stewart Products, Oakland, Cal.
Ser. Apr. 1, 1950 D. U. Jan. 1, 1950

Le Parfum Connu de Molyneux—51—B—599,444
Mfg'rs & Importers of French Perfumes, Dover, Pa.
Ser. June 20, 1950 D. U. Oct. 3, 1929

Lifeguard—18—M—576,588
Lifeguard Products Ltd., London.
Ser. Apr. 4, 1949 D. U. June 5, 1931

Lugenia—51—C—601,017 (And Des.)
Juliette Bendix, N. Y., N. Y.
Ser. July 21, 1950 D. U. July 6, 1950

Madam du Barry—44—G—560,816
Home Wave Inc., Newark, N. J.
Ser. July 7, 1948 D. U. June 21, 1948

Madame Pompadour—44—G—560,-815
Home Wave Inc., Newark, N. J.
Ser. June 7, 1948 D. U. June 21, 1948

Magic Lantern—51—B—579,418
Richard Hudnut, N. Y., N. Y.
Ser. May 24, 1949 D. U. May 9, 1949

Marcelle—51—CED—601,057
Marcelle Cosmetics Inc., Chicago, Ill.
Ser. July 21, 1950 D. U. Sept. 1, 1919

Maximilian "I"—51—B—585,384
Maximilian Furs Inc., N. Y., N. Y.
Ser. Sept. 27, 1949 D. U. May 18, 1949

Menth-O-Snow—51—K—605,896
C. B. Dicks Jr., Co., New Orleans, La.
Ser. Nov. 4, 1950 D. U. Oct. 18, 1950

Ocubelle—51—C—605,151
K. F. Eweson, DBA Halldon Co., N. Y.
Ser. Oct. 19, 1950 D. U. Sept. 28, 1950

Old Pete—51—H—600,870
J. A. White & Son, Roxboro, N. C.
Ser. July 18, 1950 D. U. Oct. 1948

Party Dress—51—C—604,738
Dorothy Perkins Co., St. Louis, Mo.
Ser. Oct. 11, 1950 D. U. Aug. 1, 1947

Penident—51—K—600,747
Whitehall Pharmacal Co., N. Y., N. Y.
Ser. July 15, 1950 D. U. July 7, 1950

Perspray—51—D—582,598
Carter Products Inc., N. Y., N. Y.
Ser. July 28, 1949 D. U. July 6, 1949

Photowave—51—G—585,238
Land K. Labs., St. Paul, Minn.
Ser. Sept. 23, 1949 D. U. Sept. 6, 1949

Pin Curl—51—G—544,195
H. G. Douglas, DBA Belva Mfg. Co., St. Louis, Mo.
Ser. June 19, 1951 D. U. Jan. 10, 1950

Pink Magic—52—A—556,658
S & S Soap Co., N. Y., N. Y.
Ser. May 10, 1948 D. U. May 5, 1947

Plus Grand—51—BCD—589,934 (And Des.)
Lanolin Plus Cosmetic Inc., Chicago, Ill.
Ser. Nov. 25, 1949 D. U. June 5, 1928

Positive!—52—H—582,488
Marengo Industries Inc., Marengo, Ill.
Ser. July 25, 1949 D. U. June 20, 1949

Revelry—51—B—549,565
Millot Inc., N. Y., N. Y.
Ser. Feb. 12, 1948 D. U. Feb. 4, 1948

Ricordo D'Estate—51—B—568,369
Giviemme S. A. Milan, Italy
Ser. Nov. 8, 1948 D. U. July 13, 1946

(Continued on page 409)

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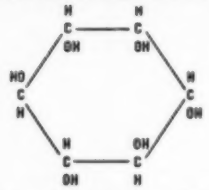

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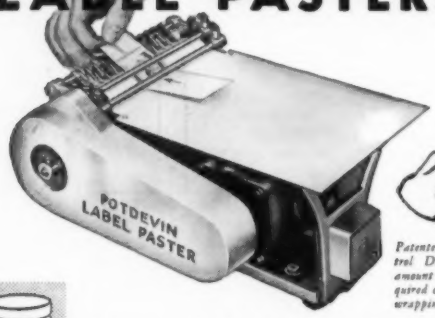

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Industry's Books

History Of Pharmacy, (A Guide and a Survey), by Edward Kremers, Ph.G., Late Director, Course in Pharmacy and Professor of Pharmaceutical Chemistry, University of Wisconsin, and George Urdang, Ph. G., Professor of the History of Pharmacy, University of Wisconsin, and Director of the American Institute of the History of Pharmacy, Second Ed., Illus., 622 pp., J. B. Lippincott Co., Phila., $7.50.

A completely revised and enlarged edition of the Kremers-Urdang History of Pharmacy of 1940, this new book has been changed in its content but not in its spirit and its goal. It has remained "a guide and a survey," to be used for teaching as well as for reading, as a book of reference so far as data and dates are concerned, and a book presenting and evaluating concepts. The most obvious innovation of the new edition is a chapter on the development of pharmacy in Spain. The work is divided into the following parts: Part One: Early Backgrounds In The Old World. Part Two: The Rise of Professional Pharmacy in Europe. Part Three: Pharmacy In The United States. Part Four: Discoveries, Inventions and Other Contributions to Society By Pharmacists.

A Review Of Medicine, by Members of the Faculty, Northwestern University Medical School, Edited by Banjamin Boshes, M.D., M.S., Ph.D., Associate Professor of Nervous and Mental Diseases, Northwestern University Medical School, Sixth Ed., 814 pp., 8½" x 11½", $15.

This book is an elastic compilation of the data taught in the classrooms of Northwestern University Medical School. The current Review of Medicine has been completely rewritten. There are many new sections: Tuberculosis, Radiation Medicine, Cancer, Oto-laryngology, Psychosomatic Medicine; many new topics: Diseases of the Blood Vessels, Spinal Cord Injuries and Diseases of the Liver, to mention but a few. The antibiotics invaded every specialty and revised the chapters on therapy. Drugs, secret for military usage only, were gradually released to the public. Surgery became bolder and more successful as recent anesthetics permitted new techniques, as better drugs enabled more comprehensive pre-and post-operative care.

The book, with its Table of Contents and comprehensive Index and cross index is new, entirely up-to-date, and more than ever a compilation of medical facts useful for the student as he prepares for examinations, for the interne or resident as he works up the patient in hospital or clinic and for the general practitioner who needs a quick but complete treatment of a wide variety of medical problems by the most modern techniques.

Pharmaceutical Botany, by Heber W. Youngken, Ph.M., Ph.D., Sc.D., Professor of Biology and Pharmacognosy, Massachusetts College of Pharmacy, Seventh Ed., 752 pp., Illus., The Blakiston Co., Phila., $7.

This seventh edition of a famous pharmaceutical botany text has been completely revised and rewritten. It includes new material on plant physiology—metabolism; plant environment; and plant anatomy—meristems, phloem, xylem, vascular rays, plant hormones, synthetic chemical growth regulators, and vitamins. Additional material on general basic botanical principles has also been added to make the book suitable for a course in general botany in colleges where students of pharmacy and liberal arts take the same course. The chapter on classification and naming of plants is completely up-to-date with modern usage. Effective teaching aids include a glossary, list of reference works, and an un usually complete and easy-to-use index.

The Analytical Balance, Its Care and Use, by William Marshall MacNevin, Professor of Analytical Chemistry, Ohio State University, 60 pp., Handbook Publishers, Inc., Sandusky, $1.50.

This monograph provides practical information about the care and use of the modern analytical balance. It is designed to acquaint the average scientific worker with the problems of selecting, mounting, cleaning, adjusting, testing and repairing a balance. It is also designed for the technical worker who has had little or no training in the use of the balance.

Distillation Equilibrium Data, by Ju Chin Chu, Associate Professor of Chemical Engineering, Polytechnic Institute of Brooklyn, 304 pp., Reinhold Publishing Corp., New York, $6.

The vapor-liquid equilibrium data presented here make available for the first time in a single volume an extremely valuable and handy reference to information indispensable in the design, performance prediction, and operating characteristics of distillation equipment in the chemical and petroleum industries. This unique and systematic work is divided into three parts—binary, ternary and multi-component systems—and totals 176 systems . . . the most complete and valuable data of its kind available for dealing with problems in extraction and absorption. The tabulation includes all pertinent experimental results of workers in all parts of the world working with all kinds of equipment.

Sales & Business Forecasting In Chemical Process Industries, by Robert S. Aires, M.Ch.E., Adjunct Professor of Chemical Engineering, Polytechnic Institute, Brooklyn, and William Copulsky, B.A., Chemical Economist, R. S. Aries & Associates, New York 135 pp., Chemonomics, Inc., New York $5.

This book lists and discusses the various methods of forecasting for the chemical process industries, discusses the advantages of each method and describes specific applications to the chemical industry. Forecasting methods used by both companies in the industry and by the government are thoroughly discussed. Contents: I—Introduction. II—Applications In The Chemical Process Industries. III—Techniques Used In Long-Range Forecasting. IV—Advantages and Disadvantages of the Methods. V—The Broad Field of Forecasting. VI—Statistical Data For Forecasting.

The Marketing of Chemical Products, by Robert S. Aries, Mech.E., Adjunct Professor of Chemical Engineering, Polytechnic Institute, Brooklyn, and William Copulsky, B. A., Chemical Economist, R. S. Aries & Associates, 149 pp., Paper Cover, Chemonomics, Inc., New York, $3.

The material in this book was originally intended to serve as a text or reference manual to students of chemistry and chemical engineering and, as such, is being used for senior and advanced courses in chemical engineering economics at the Polytechnic Institute of Brooklyn. It should also be of considerable value to those already practicing in the field of chemical marketing and commercial chemical development. A pioneer for the chemical executive and salesman, this book is the only guide which logically and completely defines every aspect of sales, market research and advertising in the chemical process industries. Contents include: Nature of the Industry; Advertising Chemicals; Selling Chemicals; Market Research; Modern Commercial Development and Technical Service Department; Marketing Chemicals for the Consumer; Who's Who In The Chemical and Chemical Process Industries.

Current Issues in Foreign Economic Assistance, Prepared by th Staff of The International Studies Group of The Brookings Institution, Washington, 103 pp., $1.

For the past year, The International Studies Group of The Brookings Institution, of which Leo Pasvolsky is the Director, has been engaged in a comprehensive investigation of economic assistance extended by the United States to other countries. The purpose of the investigation is to explore the policies pursued, and the actions taken, in the field of foreign economic assistance in their relation to American foreign policy in general and economic policy in particular.

Organic Reactions, Volume VI, Roger Adams, Editor-in-Chief, 517 pp., 1951, John Wiley & Sons, Inc., New York, $8.

This is the sixth volume of a series which was started in 1942. The intention is to provide a compilation of all the important synthetic chemical reactions. To make these volumes authoritative as well as complete, each chapter is written by a man or men who have had special experience with the reaction they are writing about. Each chapter in the series provides a comprehensive survey of a particular reaction and includes a general discussion of method, modifications, examples of applicability, special precautions, a detailed description of the procedure, expected yields, and other pertinent data. Tables have been compiled and are included in each chapter, listing compounds which have been prepared by or subjected to the reaction under discussion in that chapter.

The Materials Handling Case Book, Edited by Lewis K. Urquhart, Managing Editor, Factory Management and Maintenance, and Carroll W. Boyce, Associate Editor, Factory Management and Maintenance, 440 pp., 8½" x 11", Illus., McGraw-Hill Book Company, New York, $8.

Anyone whose job involves the storing or moving of materials in, through, or about a plant or warehouse will find this book a valuable source of timely materials handling ideas. Here are 190 specific approaches to materials handling problems that have been used successfully in industry by 145 different companies . . . actual practices that you can quickly adapt and combine to your own particular needs. The book is unique in presenting a selection of articles of practical worth from the pages of Factory Management and

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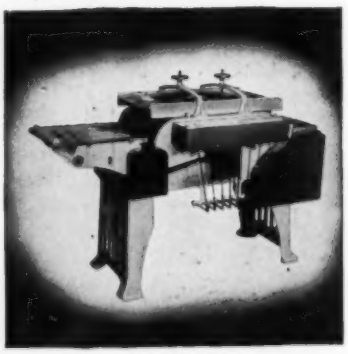

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Principles of Internal Medicine, by T. R. Harrison (Editor-in-Chief), M.D., Southwestern Medical College; with Paul B. Beeson, M.D., Emory University Medical School; William H. Resnik, M.D., Stamford, Conn.; George W. Thorn, M.D., Harvard University Medical School; M. M. Wintrobe, M.D., University of Utah Medical College; and 48 Contributing Authors, 1950 pp., Illus., The Blakiston Company, Phila., $12.

Written by a distinguished staff of five editors and 48 contributing authors, each actively engaged in the field of medicine, this text follows the modern trend in medical teaching. It thoroughly integrates the pre-clinical sciences—physiology, pathology and bio-chemistry —with clinical medicine. It approaches the subject not only from the standpoint of manifestations and mechanisms of disease but goes on to discuss specific diseases so that knowledge is combined with greater understanding. Divided into seven parts, the first five cover the functional approach to the principles of internal medicine. The last two parts deal with specific infectious diseases and disorders of organ systems. Part I—Cardinal Manifestations of Disease. Part II—Physiologic Considerations. Part III—Reactions to Stress and to Antigenic Substances. Part IV—Metabolic and Endocrine Disorders. Part V—Disorders Due to Chemical and Physical Agents. Part VI—Diseases Due to Biologic Agents. Part VII—Diseases of Organ Systems.

Methods of Vitamin Assay, Prepared and edited by The Association of Vitamin Chemists, Inc., Second Ed., Revised and Supplemented, 301 pp., Interscience Publishers, Inc., New York, 1951, $5.50.

The wide acceptance of the First Edition of this work encouraged The Association of Vitamin Chemists to undertake preparation of the Second Edition. This edition reflects increasing experience with vitamin methodology. It includes assays for several members of the vitamin B complex for which methods were not described in the First Edition, namely, pantothenic acid, pyridoxine, folic acid, biotin, vitamin B_{12}, and a chemical analysis for niacin. In addition, the methods presented in the First Edition have been revised to incorporate pertinent information from the current literature as well as modifications and changes in procedure suggested by the many interested users of the book. The chapter, "Methods for Other Vitamins," which discusses those vitamins for which specific methods have not been outlined, has been extended to provide the analyst with a basis for selecting a procedure suitable to his work. In this connection an attempt has been made to discuss briefly the relative merits of the various published methods and their applicability to different types of samples. Contents: 1. Sampling. 2. Vitamin A. 3. Carotene. 4. Ascorbic Acid. 5. Thiamine. 6. Microbiological Assay Technics. 7. Riboflavin. 8. Niacin. 9. Pantothenic Acid. 10. Vitamin B_6. 11. Folic Acid. 12. Biotin. 13. Vitamin B_{12}. 14. Methods for Other Vitamins. 15. Use of Check Samples in Control of Vitamin Methods.

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Polyethylene Glycols

(Continued from page 379)

terials to form emulsion type ointment bases. An outstanding example of such a base was offered by Huston and his associates.[27] After considerable investigation they chose the following formula as having the widest range of utility among the ointment bases tested:

Carbowax 4000	**100 Gm.**
Stearyl alcohol	**185 Gm.**
Glycerine	**150 Gm.**
Sodium lauryl sulfate	**5 Gm.**
Water	**450 Gm.**

A recent development is seen in the preparation of anhydrous ointment bases from combinations of Carbowaxes and Veegum, a colloidal magnesium aluminum silicate.[28] When combined with water in suitable proportions these dry mixtures readily form stable, creamy ointments or lotions.

This last recalls that polyethylene glycol 400 has been employed[29] to make a calamine lotion, such as the following, which shows markedly improved suspending ability and adhering power:

Zinc oxide	**8 Gm.**
Calamine	**8 Gm.**
Polyethylene glycol 400	**8 cc.**
Polyethylene glycol 400 monostearate	**3 Gm.**
Lime water	**60 cc.**
Water, to make	**100 cc.**

The properties of the polyethylene glycols have been used to advantage in the formulation of fungicidal preparations, including a number of proprietary products.[3,30-34] As pointed out by Hopkins,[14] Carbowaxes are useful in dermatophytosis, not only because they are good solvents for the fungicidal fatty acids and their soaps, but also because they can be used on fissured and denuded areas, without the macerating effects of fats or petrolatum. Because of the ease with which they can be washed out of the hair, these compounds are similarly convenient for application to the scalp.

The value of Carbowaxes in preparation for treating "athlete's foot" and the like was revealed by wartime research[35,36,37] and has since been extended to many formulations. Illustrative is the following official fungicidal Compound Undecylenic Acid Ointment, N. F. IX:

Undecylenic acid	**50 Gm.**
Zinc undecylenate	**200 Gm.**
Polyethylene glycol ointment, to make	**1,000 Gm.**

Also indicative is the recommendation by Snow and London[38] that preparations such as 5 per cent salicylanilide or 10 per cent copper undecylenate in Carbowax be used in the management of ringworm of the scalp. One preparation which has been used[39,40] with marked success in treating this mycotic infection consists of:

Salicylanilide	**5.0 per cent**

Cationic detergent (Hyamine 1622*)	**1.0 per cent**
Carbowax 1500	**94.0 " "**

*Rohm & Haas Co., Philadelphia, Pa.

Sometimes a pyogenic infection may be associated with a skin disease caused by fungi. In such cases, it may be desirable to include an antiseptic in the preparation. Such a combination[32] may consist of:

Undecylenic acid	**5 parts**
Triethanolamine	**3 "**
Neutral aeriflavine	**3 "**
Water	**10 "**
Triacetin	**10 "**
Propylene glycol	**12 "**
Carbowax 1500	**10 "**
Carbowax 4000	**50 "**

Polyethylene glycol-containing ointments are efficient vehicles for various antiseptics.[2-41] These compounds are employed, for example, in both the ointment-like dressing and solutions in which nitrofurazone (Furacin) is the active agent.[5] Such dressings have proved effective in the treatment of numerous surface infections.[42 43]

Topical application of the sulfa drugs also makes use of Carbowax vehicles.[32-44] A decade ago, Pickrell[45] used a film-forming sulfadiazine gel, containing small proportions of Carbowaxes 4000 and 1500, for treating burns of the face, genitalia and other areas. Several years later, Draeger and Pijoan[46] made similar use of Carbowax 1500 in the preparation of a sulfathiazole plastic jelly for the treatment of impetigo contagiosa. More recently, Maynard[13] reported that the following preparation was rapidly effective in impetigo and was very useful as a spray for extensive areas of eczematoid dermatitis:

Sulfadiazine	**1.8 parts**
Triethanolamine	**3.0 "**
Carbowax 1500	**3.0 "**
Water, to make	**90.0 "**

The Carbowaxes have also found useful roles in vehicles for penicillin.[47] There is some difference of opinion, however, on the effect of these compounds on penicillin. Some workers[48-49] have reported that the presence of these compounds hastens the decomposition of the antibiotic, while others[14] have found it to be "remarkably stable" in Carbowax bases. In studying this problem, Ferlauto and Clymer[50] found that penicillin stability varies with the vehicle and with the particular salt used. This is borne out by work[51] which showed that only 10 days were required to produce a 50 per cent loss in activity at 10° C when 50,000 units of penicillin sodium was used in a base consisting solely of Carbowax 1500. It required six months to produce the same effects under the same conditions when 50,000 units of penicillin calcium was tested in a base consisting of:

Polyethylene glycol 200	**25 Gm.**
Carbowax 4000	**25 Gm.**
Carbowax 1500	**50 Gm.**

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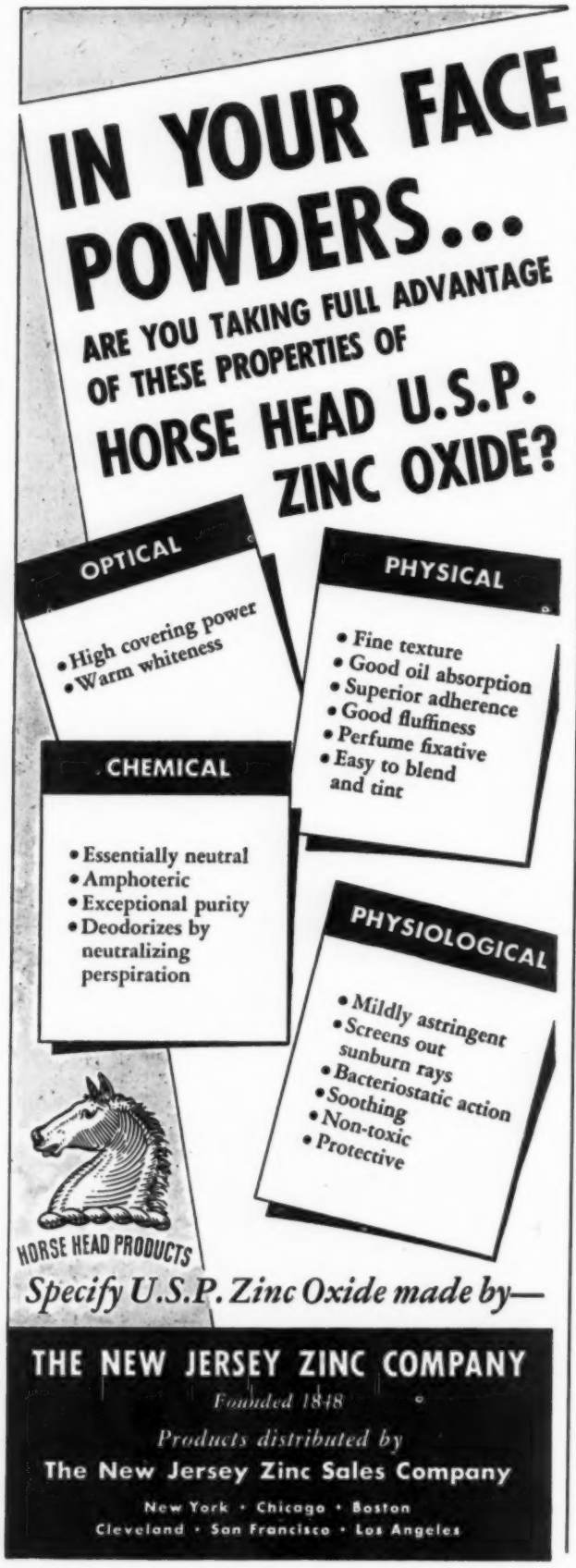


In these studies, penicillin was found to be generally more stable in the anhydrous, water-soluble Carbowax ointment bases than in most emulsion-type or fatty bases, except petrolatum. However, the therapeutic indications for a petrolatum base may be limited to conditions where the skin surface is relatively intact.

Other antibiotics may likewise be dispensed in such bases.[13,52,53] For example, Miller[54] and his associates[55,56] found that bacitracin, in a concentration of 500 units per Gm. of ointment, or dihydrostreptomycin, 5 mg. per Gm., were effective agents in the local treatment of pyogenic infections:

Carbowax 1540	**36 Gm.**
Carbowax 4000	**18 Gm.**
Polyethylene glycol 200	**46 Gm.**

With the growing utilization of topically applied antihistaminic drugs for the relief of dermatologic reactions to allergies, poison ivy, insect bites, and the like, polyethylene glycol bases found further employment.[57,58] Thus, Madden[59] reported that an ointment consisting of 5 per cent of phenidamine (Thephotin) in Carbowax 1500 was highly effective for providing relief of itching associated with various dermatoses.

Other more or less specialized preparations have made good use of the polyethylene glycols. For example, the peroxide therapy of wounds has been facilitated by the development of stable peroxide ointments made with these compounds as a basis.[60] They may also be used with potent new drugs, like cortisone. Thus, extremely good absorption has been noted following repeated clinical trials with the following ophthalmic ointment,[61] containing 1 mg. per Gm. of cortisone:

Cortisone (alcohol or acetate)	**0.25 Gm.**
Polyethylene glycol 300	**30.00 Gm.**
Carbowax 1500	**200.00 Gm.**

Polyethylene glycols also serve as vehicles for other potent drugs, like ephedrine and amphetamine, in nasal preparations.[62] Otologists have similarly found them useful. Cornbleet and Schoor[63] used an ointment consisting of 0.275 Gm. of chloramphenicol per ounce (30 Gm.) of Carbowax 1500 for treating eczema and pruritis of the ear canal. When used in this preparation, the antibiotic gave "an early and favorable response." Gauze saturated with Carbowax containing 2 per cent of dibromosalicylaldehyde was used effectively in treating otitis externa.[64]

This last points to the fact that gauze may be impregnated with Carbowax bases containing penicillin, sulfathiazole, tannic acid, zinc peroxide, quaternary ammonium compounds or other appropriate antibacterial agents. As noted by Hopkins,[14] such preparations have proved useful in dressing abraded or fissured feet, ecthymatous ulcers and other localized superficial infections.

Other forms of therapy may make use of the polyethylene glycols. For instance, Siegler[65] found that an acid jelly base made with polyethylene glycol had all the desired characteristics for vaginal medication. He

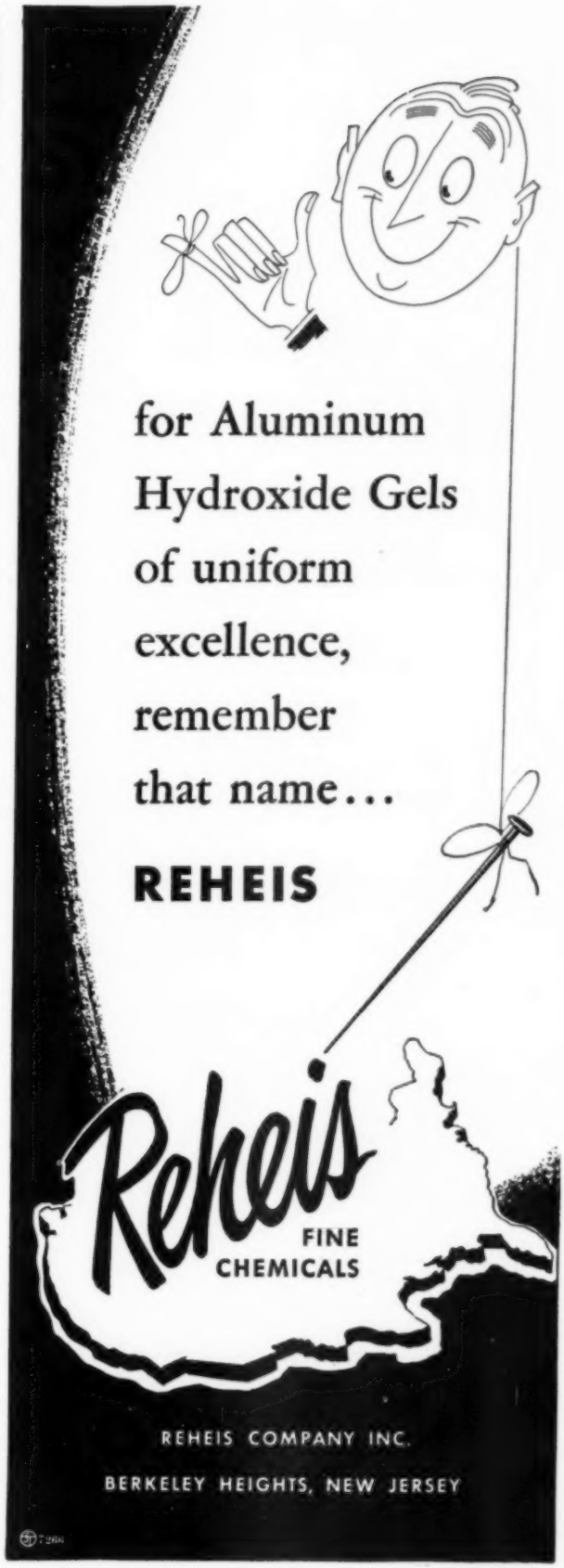
used sulfathiazole in such a base for the improved treatment of vaginitis and cervicitis. Gentian violet in a similar base is available for the therapy of vaginal moniliasis.[66] Worth noting, too, is the use of polyethylene glycols as tampon lubricants.[67]

As might be expected from an examinaton of their physical properties, the Carbowaxes may be used to prepare suppositories and other shaped therapeutic products.[68,69] Maynard,[13] for instance, has pointed out that Carbowax 1500 may be used as a base for suppositories when stiffened with Carbowax 4000. In England, Gillham[70] observed that, when used in suppositories, the solubility of such a carbowax base in the intestinal secretions favors the rapid and complete absorption of the active principles. Lubrication of the mold is unnecessary, solidification is rapid so that there is no separation of the medicament, the suppository easily released from the mold, and the appearance is satisfactory. Such bases are used not only in making preparations for humans,[5] but for veterinary practice as well. Fisburn[71] mentions the use of these materials in the preparation of penicillin bougies for the treatment of bovine mastitis.

Gillham[70] also cites the suggestion that the polyethylene glycols mixed with a little simple syrup will make good pill excipients. He explains that pills made with these compounds will retain their shape indefinitely and will not become insoluble on storage. Of definite interest in this connection is the use of a polyethylene glycol in the production of buccal tablets for the intraoral administration of such hormones as testosterone propionate, estradiol, desoxycorticosterone acetate, and progesterone.[72] Clinical studies [73] indicate that the buccal method of administration approximates the effectiveness of parenterally administered hormone. Women given the estrogen-containing tablets expressed a preference for the intraoral route over other method of therapy.[74]

Studies like those of Faillo[75] indicate that Carbowaxes may find useful roles in dentistry. He found that proteolytic enzyme incorporated in Carbowax 1500 was highly beneficial in the treatment of necrotic alveolar socket or dry socket. Also indicative is Smith's[76] patent describing the use of these compounds as bases for making sodium perborate tooth paste. As is well known, the perborate is unstable in the usual tooth paste bases.

The cosmetic industry has found many uses for the polyethylene glycols, particularly Carbowaxes 1500 and 4000. They are not subject to decomposition, they seldom react with other ingredients in a cosmetic preparation and they have other advantages.[77] Carbowax 1500, for example, is said[22] to yield products with superior softening, conditioning and skin-smoothing properties, free of undesired moist or tacky feel on the skin. These compounds may be used in the production of vanishing creams, hand creams and lotions, manicure preparations, shaving creams, hair dressings, industrial skin protective creams and various other kinds of cosmetics and skin care preparations, in-



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cluding waterless hand cleaners. They have been suggested as substitutes for castor oil in lipstick formulations[78] and, in modified form, as binders for bath salts.[79]

Vanishing creams, which form the basis for many types of cosmetics, may be made with Carbowaxes. Three typical formulas,[80] as supplied by the manufacturers of these materials, are given below:

	I	II	III
Carbowax 4000	10.0	3.6	5.3
Borax	—	1.0	—
Lanolin	—	—	4.5
Stearic acid	40.0	32.6	40.0
Triethanolamine	2.7	1.3	2.7
Propylene glycol	18.0	6.0	15.0
Water	120.0	120.0	120.0
Terpineol	—	—	0.2

Similar formulations, using Carbowax 1500, will yield pleasing hand creams. A typical[81] formula requires the use of:

Carbowax	15.00 parts
Propylene glycol	9.00 "
Triethanolamine	1.00 "
Stearic acid	12.50 "
Potassium hydroxide, 85%	0.50 part
Lanolin	3.25 parts
Terpineol	0.05 part
Perfume	0.20 "
Water	59.00 parts

Further modification will yield a hand lotion, such as the following:[25]

Carbowax 1500	30.0 parts
Water	480.0 "
Propylene glycol	20.0 "
Diethylene glycol monoethyl ether (Carbitol)	30.0 "
Triethanolamine	1.0 part
Stearic acid	18.0 parts
Quince seed mucilage	20.0 "
Potassium hydroxide	0.5 part
Lanolin anhydrous	6.0 parts
Terpineol	0.2 part
Perfume	as desired

Other more specialized manicure preparations may utilize these compounds. Francisco[82] used them in the formulation of cream nail polish removers, while Hauser and Kovol[83] employed Carbowaxes to prepare special protective coatings for use around the edges of the nail during manicuring.

The patent granted to Wilkes and Wassell[84] showed how the Carbowaxes could be used to advantage in various cosmetic preparations, and especially in hair dressings. Thus, Carbowax 1500 in water or aqueous alcohol solutions provided a very desirable grooming action without imparting greasiness or excessive sheen to the hair. When added to permanent wave solutions, Carbowax 4000 prevented the hair from becoming

dry during the heating and assisted in the curling process.

In the men's department, the Carbowaxes have interesting possibilities as ingredients of brushless shaving creams because they act as lubricants and yet are soluble in water.[85] An example of such utility is offered in the following brushless shaving cream formula:[81]

Carbowax 1500	**15.0 parts**
Propylene glycol	**4.5 "**
Diethylene glycol monoethyl ether	**5.0 "**
Triethanolamine	**1.0 part**
Stearic acid	**12.0 parts**
Potassium hydroxide, 85%	**0.5 part**
Sodium alginate, 2% mucilage	**1.3 parts**
Perfume	**0.2 part**
Water	**60.0 parts**

The polyethylene glycols, including both the liquid and solid forms, have become valuable laboratory aids, particularly in histological work. Van Horne and Zoph,[86] for example, in their new botanical microtechniques, used various dilutions of polyethylene glycol 400 and finally the pure product for dehydrating plant specimens. These were imbedded in a mixture of Carbowaxes for sectioning, mounting and staining. In more direct methods for preparing skin, muscle, tumors and other tissues, Blank[87] employed a mixture of one part of Carbowax 1500 with nine parts of Carbowax 4000 in a rapid imbedding technic for histological sections. He confirmed Carsten's[88] findings and showed that the Carbowaxes are useful to accelerate the imbedding and preparation of histological specimens of a great many types of tissues. More elaborate is the mounting medium for small insects, mites and other whole mounts developed by Clark and Morishita.[89] A mixture of methylcellulose and Carbowax 4000, in a special solvent, forms the basis of this medium.

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•

To some callous observers however, there is balance in a situation that favors the undergraduate with the answers on the eve of the exam. It may consider him to favor friends with army contracts on the eve of retirement.

•

Naturally, it's unfair to hold the entire outfit responsible for the derelictions of a few. But more than a couple of ex-G.I.s remember a couple of ex-West Pointers who did just that, from Basic Training to the Battle of the Bulge.

•

If only our espionage in Korea were as good as it seems to be at the Point! There'd be a Letter of Commendation to match every letter of dismissal.

•

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Polyethylene Glycols

(*Continued from page 401*)

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Durham-Humphrey... round one

(*Continued from page 313*)

are Robert A. Taft, Ohio; George D. Aiken, Vermont; Wayne Morse, Oregon.

The importance of having this bill reported out of committee in the Senate in the form it was passed in the House lies in the fact that if it is reported in a different form and passed by the Senate in a different form, then it is to be turned over to Conference of House and Senate members to be whipped into a form in which it will be presented to both branches of the Congress. And most of the time these conference committee reports are passed by both the Senate and the House. Therefore, if the bill gets into a conference committee, it might very well be completely out of control so far as the drug industry is concerned. Of course, if the bill is reported to the Senate in an objectionable form, there is always the possibility of

having it amended on the floor—as was the case in the House—so that it will conform with the House version of the bill when the Senate passes it. But it would be much better if this revision could be accomplished in the committee, for then the uncertainty of having it amended on the floor of the Senate would be eliminated, and also the Senate would be more likely to enact it in this form as it is often quite prone to accept a committee's report since a committee really has studied the bill and given much thought to it.

The danger of having the Senate pass the bill in some form other than passed by the House is very real. The chairman of the House Committee on Interstate and Foreign Commerce, Representative Crosser, said during the debate in the House: "I hope that this abominable amendment (the O'Hara amendment) will be voted down and the people of the country protected." Since Mr. Crosser would name the members of his committee who would serve on a conference committee, this statement should indicate that he would certainly not name representatives who are in any way friendly to the O'Hara amendment. It must be recalled that Mr. Crosser's committee voted the bill out in the objectionable form. Therefore, if the Senate should pass the bill in the objectionable form in which it is being presented in the Senate, then it is almost certain that a conference committee would report it in this same objectionable form, and the chances would be greatly for its final enactment in that form.

It would be disastrous for the drug industry if the Durham-Humphrey bill were enacted in the form in which it was introduced. It must be enacted in the form in which it was passed by the House if the drug industry, as we have known it, is to survive. Enactment of this bill in the objectionable form in which it was introduced or reported to the House by committee would be a basic step toward socialized medicine in this country. Furthermore this would be a step which could not be retraced, and socialized medicine would have to be the result. It is for this reason that the American Medical Association is now fighting this bill actively alongside the drug and pharmaceutical manufacturers, the American Pharmaceutical Association, and the drug wholesale organizations. Everyone interested in the drug industry in any way must do everything he can to see that this bill is enacted in the proper form.

Multivitamin Preparations

(*Continued from page 319*)

during processing has resulted in precipitation of the finished solution while the same ingredients only in contact with glass and synthetic tubing, such as tygon and alvanol, gave satisfactory results. Traces of calcium ions may cause precipitation as slow breakdown of B_1 takes place during storage. Chlorobutanol has been found to cause trouble in connection with precipitation while phenol and gentisic ethanolamide have been found more satisfactory as preservatives. The use of benzyl alcohol as an anesthetic is questionable

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since it is too slow acting. Unless the ingredient added to B-complex parenteral solutions has a definite or pronounced effect, it should be avoided since most B-complex parenterals are too high in solids content. Gentisic acid ethanolamide has the advantage of solubilizing riboflavin in addition to being a satisfactory preservative. Special tests to determine suitability of thiamine hydrochloride are required to ascertain whether the product is satisfactory for parenteral solutions. The customary laboratory tests are not sufficient in this respect. In other words, it is necessary to make a special ampule test, to determine whether a certain lot of thiamine hydrochloride is suitable for parenteral solution.

Riboflavin has presented a real problem in B-complex parenterals mainly because of its low solubility which at room temperature is about 0.12 to 0.13 mg. per cc. Most pharmaceutical manufacturers want as much as 1.5 to 3.0 mg. of B_2 per cc. Solubilizing agents are therefore required and of these niacinamide has until recently been the most widely and apparently most extensively used. However, the use of 75 to 100 mg. of niacinamide per cc. as a solubilizer in addition to its vitamin activity has been more satisfactory than urea, acetamidine hydrochloride and certain hydroxy benzoic acids. These high concentrations of niacinamide may be objectionable because of increasing the solids content of the solution. Gentisic acid ethanolamide is now extensively employed as a solubilizer for riboflavin in B-complex solutions. A 2.5-3.0 per cent solution of the ethanolamide with 37.5 mg. of niacinamide per cc. will solubilize 3.0 mg. of riboflavin. This gentisic acid compound also seems to have some stabilizing effect in regard to precipitation of thiamine decomposition products. Multivitamin parenterals containing 2.5 to 3.0 per cent of the ethanolamide have been injected subcutaneously, intramuscularly and intravenously without ontoward effects attributable to the gentisic acid ethanolamide itself. Concentrations of 0.5 per cent of the ethanolamide have antiseptic properties of 0.5 per cent phenol and therefore do not require an additional antiseptic.

The less soluble reduced form of riboflavin known as chloroflavin is formed by the reducing activity of ascorbic acid and breakdown products of B_1. As an example, concentrations of B_1 of 20 to 100 mg. per cc. have reduced B_2 to chloroflavin during storage while 10 mg. of B_1 per cc. in exactly the same formula otherwise did not cause precipitation of chloroflavin. A pH of 4.2 is much more conducive to formation of chloroflavin during storage than 3.8. Increased solids content also seems to influence chloroflavin formation. In other words, there are three known factors which influence chloroflavin precipitation in B-complex parenterals, namely, (1) high concentrations of B_1 which yield a higher percentage of reducing breakdown products, (2) pH above 4.0 when ascorbic acid is present, and (3) high solids content of the solution.

Pyridoxine hydrochloride (B_6) properly tested and approved for parenteral solution production does not

present a problem since it is of good stability at pH 3.0 to 5.0. High concentrations of B_6 are light sensitive, but the lower concentrations in B-complex parenterals are not of concern in this respect.

Niacinamide has no chemical characteristics which complicate its use in B-complex parenterals. Niacinamide forms a colored compound with gentisic acid ethanolamide.

Considering the comparative stability of panthenol and sodium pantothenate at given pHs in aqueous solutions, it will be noted that at pH 3.0 the relative stability of panthenol is much better than that of sodium pantothenate. At pH 4.0 the spread is still wider; at pH 5.0 which approaches the maximum stability the spread is rather narrow. Approaching pH 6.0 and pH 7.0 and pH 8.0 we find the stability of panthenol and sodium pantothenate in aqueous solution is approximately the same.

In studying the relative stability of vitamins in an injectable hexavitamin preparation at pH 4.0 to 4.5, it is apparent that there is a much higher or better stability of panthenol than the ionized panthothenate. This study also shows the stability of ascorbic acid, pyridoxine, thiamine, riboflavin, and niacinamide. There was noted quite a drop in ascorbic acid and consequently in aqueous solutions, such as multivitamin drop dosage preparations, considerable excess is required. A considerable excess of B_1 is also necessary in aqueous preparations. Thiamine mononitrate offers no advantage over the hydrochloride. The former causes more discoloration on breakdown in aqueous preparations. Riboflavin holds up very well, and there is practically no loss of niacinamide because it is quite stable under those conditions.

Pantothenic acid salts were found to be rather unstable in solutions of pH 3.5 to 4.2. Since excesses of 50 to 70 per cent are required to maintain label potency, the use of the salts in panthothenic acid, even in small amounts, tends markedly to increase the solids content of the solution. Calcium pantothenate in introducing calcium ions usually results in precipitation of calcium salts formed with breakdown products of B_1 and ascorbic acid. Methods for converting calcium pantothenate into sodium pantothenate are not difficult. The calcium in this case is removed from solution as the oxalate. The use of panthenol which is free of alkali metal ions is preferred since it eliminates this special processing as well as limiting the solids content. Panthenol is also more desirable because of far better stability. In regard to stability, a 10 to 20 per cent overage of panthenol will in most cases be sufficient when a 75 per cent overage of sodium pantothenate is required. On a molecular basis 0.86 grams of panthenol are equivalent to 1.0 gram of d-calcium pantothenate.

Ascorbic acid up to 50 mg. per cc. in parenteral products does not present problems in regard to stability, precipitation and gas pressure formation if the solution is within a reasonable solids content and the pH is held at 3.8. A higher concentration of ascorbic acid may result in excessive gas formation due to ascorbic

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acid decomposition. Solid sodium ascorbate available commercially up to this time does not seem to be entirely satisfactory for parenteral solutions. Apparently the buffering of ascorbic acid with sodium bicarbonate under anaerobic conditions, as in parenterals manufacture, can be handled with less decomposition of the ascorbic acid than that which takes place in manufacturing solid sodium ascorbate.

Of the antiseptics so far employed in B-complex parenterals, 0.5 per cent phenol and a mixture of 0.18 per cent ethyl and 0.02 per cent butyl hydroxy benzoate have been found satisfactory. If one to two per cent of gentisic acid ethanolamide is used for solubilizing B_2, additional antiseptic is not required. Much trouble has been experienced with chlorobutanol and many manufacturers regard it unsatisfactory, especially in rubber-stoppered vials. Chlorobutanol in aqueous solution slowly decomposes at room temperature, with a lowering of pH. This decomposition seems to be accelerated by the presence of benzyl alcohol.

In the processing of B-complex parenterals, it has been our experience that the following precautions are extremely important:

1. Avoid unnecessary exposure of the solution during manufacturing to light and air. Flooding equipment with carbon dioxide is satisfactory.

2. Avoid contact of solution with rubber. Glass-lined or glass equipment should be used. Tygon and Alvanol tubing are satisfactory. Both can be sterilized by immersing in 70 per cent alcohol containing about 1 per cent phenol. Heat sterilization impairs the elasticity of these tubings.

3. All ingredients should be checked for suitability in parenteral solutions.

4. Don't overcrowd solution with high amounts of niacinamide. Solids content can be lowered by using gentisic ethanolamide in place of niacinamide for solubilizing B_2. Physiological salt solution and additives such as sodium citrate, etc., should be avoided.

5. The pH should be approximately 3.8. Above 4.0 the less soluble chloroflavin forms by reducing action of breakdown products of B_1 and ascorbic acid.

6. Avoid chlorobutanol. 0.5 per cent phenol or one to two per cent gentisic acid ethanolamide is more satisfactory.

7. Avoid benzyl alcohol. Its action as a local anesthetic is not sufficient to offset its influence on accelerating precipitation.

8. Avoid local alkalinization during pH adjustment.

9. Avoid calcium salts. The use of panthenol eliminates the introduction of alkali metal ions.

10. Test containers, especially rubber closures, for suitability.

Although much progress has been made in stabilizing multivitamin parenteral solutions against precipitation and potency loss during storage, some factors causing trouble in this respect remain to be elucidated.

Factory Inspections

(Continued from page 323)

been in your plants, to detect practices which experience has taught us can ultimately result in defective batches. Similarly, in reviewing your records of distribution we have sometimes been able to spot the very weak links which necessitated the public warnings on the improperly compounded tablets containing boric acid. Following each inspection our inspectors take the time to sit down with responsible plant officials and call to their attention any condition they have observed which they feel might result in the marketing of a product which is adulterated or misbranded. If at all possible, they will suggest revisions or improvements in plant technique or control procedures which would assist the manufacturer to put out good products. The pharmaceutical industry has continued to make great technological strides in the past few years and we strive to improve our inspection procedures to keep abreast of the industry's problems. For example, when the use of bacteriological filtration came into widespread commercial usage our Division of Microbiology began studies into certain non-sterile lots encountered which were subsequently found to be caused by clogged and improperly cleaned filters or by using filters of improper porosity. Similarly, our Division of Nutrition has made studies seeking the causes for the unusually rapid deterioration in potency of certain vitamin products during their normal shelf life. The conclusions reached in these technical studies are circulated to our field personnel to assist them to understand your problems and to aid in suggesting improvements.

In making an inspection of your plant, the inspector visits each department in turn, generally following the flow of products from their receipt until their subsequent shipment. He examines master formulas, batch formulas, raw material storage, returned goods storage, plant equipment, products in various stages of manufacture, filling methods, sterilization procedure, packaging of all types, label storage, labeling of finished goods, sampling and subsequent laboratory analyses, and makes a detailed study of the records which are maintained at every stage to assure the identity and authenticity of each ingredient and product handled. At every step in the inspection he is attempting to make a factual appraisal of the adequacy of the procedure employed and see whether or not errors could be introduced. I'm sure that all of you will recognize that this inspector is merely attempting to accomplish in the short time available to him the very thing which the firm's responsible control officials are striving for in their everyday activities.

One of the problems faced by all manufacturers, both large and small, is concerned with the everyday activities of each employee. Man is, by nature, prone to make some mistakes. In some industries human errors are accepted as part of the cost of doing business, but because of the great trust placed in the pharmaceutical

industry by the consuming public, errors must be detected before the product leaves the plant. During 1950 five drug recalls were occasioned by errors in packaging or labeling and three more by inadequate control over raw materials, manufacturing processes, or formula development. What steps might be taken to prevent costly errors? Incidents such as the following, taken from reports covering the past five years, may shed some light. Some time ago during the investigation of an oral antacid preparation that had caused nausea among its users we inquired into the existence of the master formula from which the particular batch formula of the lot in question had been prepared. Although the firm involved had been in business many years, the master formula had merely been committed to memory by one of the plant officials and had not been recorded. This official had become ill, and an employee had been sent to his bedside to secure the essential data. Despite the fact that the official correctly repeated the formula, the employee's handwriting in putting it down on paper was so poor that a subsequent error resulted in the use of a tenfold excess of saccharine in the final product. Obviously the solution to this and similar problems would be the establishment of a clear and legible file of master formulas. Often times when we ask to see the master formula file we are handed a well-thumbed loose-leaf notebook, the pages of which contain formulas with a seemingly endless array of erasures, additions and deletions, substitutions, and scrawled notations in the margins. Certainly a new master formula should be made out for each revision and the old one removed from the active file. If several alternate formulas are used because of inability to secure certain raw materials, then separate formulas should be kept on file and properly identified.

In transcribing data from master formulas to batch formula sheets errors can sometimes occur. Contributing to this are the complications resulting from utilization of different systems of weights and measures. Analysis of a shipment of tablets labeled as containing 1/8 grain of phenobarbital per tablet revealed them to actually contain 0.8 grain. The employee had confused 1/8 with 0.8, and the firm had relied on manufacturing controls rather than laboratory controls over the finished product, thus resulting in the marketing of a product containing more than six times the declared amount of phenobarbital. To help eliminate such errors many manufacturers now employ machine duplication of batch formulas from the master formulas. Batch sizes have also been standardized to conform with predetermined equipment capacities to further eliminate the need for computations and the errors which they often introduce.

During 1948, illness, together with the symptoms of atropine poisoning, resulted from the drinking of peppermint tea prepared from the packaged leaves. Analysis here disclosed the peppermint leaves to be

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grossly contaminated with stramonium leaves. When a comprehensive control inspection was made at the factory involved we found not only that peppermint leaves had been contaiminated with stramonium, but that a similar occurrence had taken place, resulting in contamination of boneset and belladonna. This example of poor controls over the storage of raw materials emphasizes the necessity for storing material in plainly marked containers which are so constructed as to prevent contamination with any foreign material. We have even observed raw materials stored in second-hand containers, which bore three different labels. We recommend that precautions be taken to prevent mix-ups in storage of raw materials by properly marking and identifying containers and by avoiding placing nearly identical containers side by side. Care must also be taken in properly identifying goods in the receiving room to differentiate incoming raw materials from those which have been examined and released by the control department for use. This also applies to returned goods which have not yet been inspected and deemed suited for release.

I could cite numerous examples of label mix-ups that have occurred—benzene labeled as guaiacol, salicylic acid as benzoic acid, mustard ointment as boric acid ointment—aspirin and strychnine compound labeled as simply aspirin—turpentine labeled as castor oil—10 milligram amphetamine sulfate labeled as containing only 5 milligrams—these and many others in recent years. Subsequent investigation was not always successful in determining the cause of these errors, but some were attributed to the practice of the firm in labeling two lots of different products simultaneously on the same packing table. Other mix-ups have been attributed to the accidental mixing of labels in the bins and subsequent failure of employees to check the labels furnished them. Errors in mislabeling products with similar labels differing only in potency declaration can be reduced, for example, by utilizing different colors for the various potencies produced. Many firms have realized that a relatively simple labeling error can nullify their entire program of otherwise effective controls and have put into operation rigid inventory control over label stocks. These firms have also concluded that tallying and issuing labels, simple though it may seem, is a job to be entrusted only to employees with many years service who have demonstrated ability to pay close attention to pertinent details of their everyday duties.

Carelessness on the part of employees during manufacture can also contribute to the marketing of drugs which fail to have the stated composition. After analysis revealed a 20 per cent deficiency in a lot of codeine tablets an investigation made at the plant brought to light the fact that the firm weighed the powder on laboratory scales in one room, then carried the powder spread on a flat piece of paper to the molding room. The powder had been carried about forty feet and the employee was required to open two intervening doors; during this procedure some of the powder had spilled onto the floor. This serves to emphasize the statement made earlier that control personnel should become thoroughly familiar with all phases of plant operation, so that whenever they observe conditions which might result in an erroneous product, measures can be adopted to correct the situation.

As in previous years, a perennial source of difficulties in parenteral solutions has been distribution of non-sterile products. I will not attempt to go into the technical aspects of this question, but great care must be taken in setting up sampling schedules and biological testing procedures that will accurately reveal the condition of the lot being tested. Sampling short-cuts should be viewed with caution because they must necessarily increase the hazard of marketing non-sterile injectables. Discretion should be used in selection of the individual units taken for the test, taking into consideration their relationship with all other units in the batch subjected to the same form of sterilization. In considering the bacteriological methods employed on the sample tested, both the amount taken from each vial and the number of tubes of medium inoculated will have a bearing on the reliability of the results obtained. Our bacteriologists prefer to inoculate three tubes of medium from each ampul under test, using the largest volume of inoculum possible. Where the presence of a bacteriostatic agent requires the use of a relatively small volume of inoculum, they plant more than three tubes from each vial.

During some inspections we have encountered firms which from casual observation appear to have instituted a fairly complete and adequate set of controls. Upon closer examination, we have found that through oversight some of these control measures have been nullified. One firm had embarked on a highly desirable program of inventory control of raw materials, including the assigning of lot numbers on all incoming chemicals with adequate safeguard for quarantining these incoming lots until they had been released following laboratory examination. As portions of each lot were withdrawn the weights were meticulously recorded opposite the control number of the intended manufacturing batch. One of the inventory cards for phenobarbital was pulled at random by one of our inspectors, who found that when the contents of this single drum had been exhausted, the inventory card showed a discrepancy of thirteen pounds. It had been duly noted, and the card transferred to the "dead file," without anyone in the firm inquiring into the ultimate disposition of the missing thirteen pounds. During other inspections we have observed firms make up a batch of solution for injection in such quantities that after filling it became necessary to sterilize the ampules in several autoclave loads. Samples for sterility tests were taken from but one loading and the same control number assigned to the entire batch. In this regard it is well to keep in mind the new requirement which appears in U. S. P. XIV and in N. F. IX, which states in part:

"The label upon each immediate container of an Injection must indicate * * * the manufacturer's identifying lot number. The manufacturer's identifying lot number shall be capable of yielding the complete manufacturing history of the specific package, including any single manufacturing, filling, and sterilization operation."

At the conclusion of some of our inspections we find it necessary to recommend to plant officials that the firm materially increase its laboratory controls either because of the nature of the drugs manufactured or because in our opinion the manufacturing controls are not sufficient to insure the marketing of products free from adulteration or misbranding. When we outline to them some of the chemical or bacteriological assays that should be made they sometimes reply that the cost of these tests would be prohibitive. Much can be said in debating this issue, and every manufacturer naturally has to take into consideration the added cost of maintaining and operating a modern control laboratory, or in sending samples out for outside analysis. In reaching his decision the manufacturer would be wise to consider the problem he might face in the event that a defective lot goes by undetected. Of the sixteen manufacturers who were involved in major drug recalls during 1950, two are especially noteworthy. One firm was involved in the recall of 17 million doses of a sedative tablet and the other in the recall of 15 million doses of an anesthetic injection, both of which had been distributed nationally and in foreign countries, and both of which had been found capable of causing injury.

The examples which I have cited have been deliberately selected and certainly are not representative of the vast majority of drug manufacturers who are performing such a valuable service to both the civilian population and our troops abroad. The drug industry has made great strides in raising the standards of drug products so that the American consumer has been able to secure your products with an ever increasing assurance of purity and wholesomeness.

Your Trade-Mark Record

(*Continued from page 391*)

Ricordo Di Primavera—51—B—568,-371
Giviemme S. A., Milan, Italy
Ser. Nov. 8, 1948 D. U. July 13, 1946

Ricoro D'Inverno—51—B—568,370
Givie mm e S. A. Milan, Italy
Ser. Nov. 8, 1948 D. U. Sept. 6, 1948

Robert Curley—52—AH—563,265
Locks Labs., N. Y., N. Y.
Ser. Aug. 12, 1948 D. U. Dec. 15, 1947

Rosecillin—51—K—575,410
Hughes & Carroll, Prescott, Ariz.
Ser. Mar. 14, 1949 D. U. June 16, 1944

Rosy Dream—51—C—579,328
Andrew Jergens Co., Cincinnati, Ohio
Ser. May 23, 1949 D. U. Mar. 11, 1949

S—51—B—577,527
Edouard Perfume Co., Cleveland, Ohio
Ser. Apr. 22, 1949 D. U. Feb. 10, 1948

Salle's—51—H—601,531
Freda Batchelor, Hamtramck, Mich.
Ser. Aug. 1, 1950 D. U. June 1, 1949

Salome—51—B—578,350
Maurice Blanchet S. A., Paris, France
Ser. May 6, 1949 D. U. Jan. 19, 1938

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Sanikleen—51—BCHK—578,853
S. H. Kress & Co., N. Y., N. Y.
Ser. Apr. 29, 1949 D. U. Sept. 12, 1928

Sateen—51—H—605,259
House of Stuart Inc., Newark, N. J.
Ser. Oct. 21, 1950 D. U. Aug. 4, 1950

Sexton—52—A—578,708
John Sexton & Co., Chicago, Ill.
Ser. May 12, 1949 D. U. Mar. 1944

Shadow Wave—44—G—605,313
Lee Pharmacal Co., Beverley Hills, Cal.
Ser. Oct. 23, 1950 D. U. Sept. 25, 1950

Sham-Rins—52—A—566,092
Modern Chemico, Highwood, Ill.
Ser. Sept. 29, 1948 D. U. Jan. 22, 1932

Shoam—52—H—602,069
Romak Labs. Inc., N. Y., N. Y.
Ser. Aug. 10, 1950 D. U. June 15, 1950

Silver Iris—51—E—590,408
Elizabeth Arden Sales Corp., N. Y., N. Y.
Ser. Jan. 6, 1950 D. U. Nov. 1, 1949

Silver Star—51—H—581,356
M. R. Pope, Eagletown, Pa.
Ser. June 30, 1949 D. U. Jan. 10, 1949

Skin Kare—51—C—541,226
Essential Cosmetics Inc., N. Y., N. Y.
Ser. Apr. 17, 1951 D. U. Aug. 24, 1948

Special Occasion—51—ABC—591,166
House of Tre-Jur Inc., N. Y., N. Y.
Ser. Jan. 20, 1950 D. U. Nov. 10, 1949

Splash''—51—B—586,335
Parfums Evyan Co., N. Y., N. Y.
Ser. Oct. 14, 1949 D. U. May 23, 1946

Stopette—51—D—598,669
Jules B. Montepelier, Chicago, Ill.
Ser. June 6, 1950 D. U. Apr. 15, 1946

T—51—BCH—583,193
Consolidated Cosmetics, Chicago, Ill.
Ser. Aug. 9, 1949 D. U. Sept. 10, 1931

Talisman—51—C—586,590
Charles Of The Ritz Inc., N. Y., N. Y.
Ser. Oct. 20, 1949 D. U. Sept. 28, 1944

Talisman—52—A—586,591
Charles Of The Ritz, N. Y., N. Y.
Ser. Oct. 20, 1949 D. U. Oct. 10, 1945

Tandary—51—H—602,759
Germaine H. Betschart, Fresneau, Switz.
Ser. Aug. 25, 1950 D. U. Mar. 10, 1947

Tonamor—18—F—600,352
Tonamor Foot Powder Co., Chicago, Ill.
Ser. July 7, 1950 D. U. Aug. 2, 1949

Travelair—51—C—579,420
Richard Hudnut, N. Y., N. Y.
Ser. May 24, 1949 D. U. May 9, 1949

Traveler—2—M—558,701
Consolidated Cosmetics, Chicago, Ill.
Ser. June 8, 1948 D. U. Mar. 3, 1947

Travel Pac—51—B—572,985
Lucien LeLong Inc., Chicago, Ill.
Ser. Jan. 28, 1949 D. U. October 1936

Tresemme—52—A—598,949
Godefroy Mfg. Co., St. Louis, Mo.
Ser. June 12, 1950 D. U. Nov. 28, 1947

Tresses—40—M—541,598
Tresses Of Hair Inc., N. Y., N. Y.
Ser. Aug. 18, 1948 D. U. Aug. 28, 1947

Tropic Dream—51—C—579,329
Andrew Jergens Co., Cincinnati, Ohio
Ser. May 23, 1949 D. U. Mar. 11, 1949

Tropiques—51—BCH—568,737
Lancome S. A., Paris, France
Ser. Nov. 13, 1948 D. U. June 20, 1946

Turn-er's—51—H—584,364
Guy Turner Mfg. Co., Boise, Idaho
Ser. Sept. 1949 D. U. May 1, 1946

Tweezie—44—R—569,277
Lifetime Tweezer Co. Inc., Los Angeles, Cal.
Ser. Nov 23, 1948 D. U. Dec. 1, 1947

Vasenol—51—C—557,468
Marius Rotwitt, Copenhagen, Denmark
Ser. May 20, 1948 D. U. July 9, 1910

Vera-Genic—51—C—559,075
Estro Products Co., Los Angeles, Cal.
Ser. June 11, 1948 D. U. Jan. 1, 1948

Videogenic—51—C—576,046
J. Del Russo Inc., N. Y., N. Y.
Ser. Mar. 25, 1949 D. U. Mar. 18, 1949
Vivaudou—51—BCDEHK—598,748
Nestle-LeMur Co., N. Y., N. Y.
Ser. June 7, 1950 D. U. Since 1914
Vivormones—51—BC—597,721
Academie Scientifique de Beaute, Paris, France
Ser. May 19, 1950 D. U. Jan. 12, 1950
Wedj—51—K—599,402
Wedj Co., Brooklyn, N. Y.
Ser. June 19, 1950 D. U. Feb. 10, 1950
Where's The Fire—51—CE—596,949
Revlon Products Corp., N. Y., N. Y.
Ser. May 5, 1950 D. U. Apr. 20, 1950
White Mist—51—BC—583,332
Countess Maritza Cosmetics Co., N. Y., N. Y.
Ser. Aug. 11, 1949 D. U. July 15, 1949
White Shoulders Splash—51—JIC—503,145
Parfums Evyan Inc., N. Y., N. Y.
Ser. May 31, 1946 D. U. May 23, 1946
Wonder Creme—51—C—586,703
Sally Lewis Newstead, DBA Sally Lewis, N. Y., N. Y.
Ser. Oct. 22, 1949 D. U. Jan 31, 1931
Worsham's—51—C—540,612 (And Des).
Grace Pauline Worsham, Summerville, Ga.
Ser. Jan. 31, 1950 D. U. Jan. 2, 1948
W S—51—B—577,528
Edouard Perfume Co., Inc., Cleveland, Ohio
Ser. Apr. 22, 1949 D. U. Feb. 10, 1948
Zeet—18—F—568,205
Ser. Nov. 4, 1948 D. U. Aug. 20, 1944
Zesto-Wave—51—G—602,774
Pilot Products Co., Salt Lake City, Utah
Ser. Aug. 25, 1950 D. U. July 28, 1950
Zireen—51—S—600,643
G. G. Baisdell, DBA Zira Labs, Bradford, Pa.
Ser. July 14, 1950 D. U. June 28, 1950

Act of 1946

The following Trade-Marks have been recently republished under the terms of the above (Lanham Act). No opposition can be filed against them but they are all subject to cancellation proceedings.

Abscent—51—D—175,011
Reg. Oct. 30, 1923 To Jean Jordeau Inc., South Orange, N. J.
Repub. by registrant
Alberte—51—ACE—335,421 (And Des.)
Reg. June 2, 1936 To Alberts-Culver Co., Hollywood, Calif.
Repub. by registrant

Pharmaceutical Research

(Continued from page 325)

department of a company might work for years to develop a product, only to have another manufacturer turn up with it first. Then there is the likelihood that several other companies are working on exactly the same thing, lacking only the final step. Thus when one company finally announces the completion of research in the development of a particular product, several other companies immediately are given the clue to the final step upon which they have been working so long. In such instances, the original discoverer of the product has very little, if any, time in which he can exclusively market the product in an attempt to get back the money which his research has cost him. For this reason, different companies have different policies regarding

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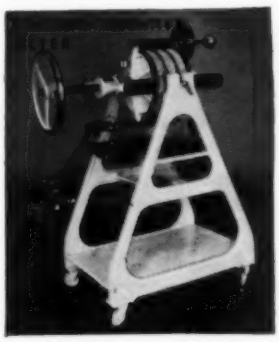

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the release of information concerning the products which they are developing. Some companies release the news as soon as they have accomplished an isolation or a synthesis in the laboratory, fully realizing that a great deal of time must elapse before this product is synthesized or isolated on a commercial basis. The time in between the first announcement and the availability of goods for the market might be sufficient to give some other manufacturer a hint as to a short cut with the result that the second company, as well as one or two others, might be the first to have the product available for use by the medical profession.

However, the fact remains that when really new and highly efficacious products are discovered and made available, a ready-made market is waiting to absorb them. The problem is not one of selling the products so much as it is of proving to the medical profession just what the products will do. And this is quite easily done by authentic reports of clinical trials. Many times the potential demand for these products is so great that the output of several manufacturers is immediately absorbed, and the problem of trying to sell the doctors on prescribing or using the product in question under a particular label, does not arise for quite a long time. Of course, if the product is exclusive with one company, such as the specialty antibiotics, then this problem will not arise during the life of the patent, which is seventeen years.

Therefore, it would seem that in the case of products of this sort, the money, which in another industry would be spent to create a market for a product, is spent before the product ever reaches the market. It is true that in the pharmaceutical industry the costs of promoting and introducing a new product must be spent on a new product whether or not it is a real new product with high efficacy. The returns from the expenditure on a new product which revolutionizes the therapy of one or more diseases are considerably greater and the market continues to grow with very little being spent in the way of increased promotional activities. While, in a great many industries, the introduction and promotion of new products is pretty much of a gamble with those which are successful in finding a wide market making up for those which fail to find a market, this gamble, for the most part, takes place in the research division of the pharmaceutical industry with the failures never even reaching the market.

The necessity for continued research of this sort on the part of the pharmaceutical manufacturing industry lies in the fact that it is estimated that 60 per cent of the total sales of pharmaceutical houses are of products which were not in existence ten years ago, while 90 per cent of the sales of pharmaceuticals are of products which were not in existence fifteen years ago. In the face of these conditions in the pharmaceutical industry it is apparent that a company which does not spend money on the development of new products will not even be able to stand still in this rapidly expanding industry but will continue to lose volume to the new products of other manufacturers and will eventually dwindle to the vanishing point.

Research of great intensity is often engaged in by one or more companies to find products which represent distinct improvements over the first product of a certain type which may have been introduced by another manufacturer. Generally, when a new type of product is introduced, the first product marketed will have undesirable side-effects, or will not be as efficacious as might be desired, even though the product is widely received and used because it controls conditions not otherwise controllable, or because it represents a definite advance in the therapy of one or more important diseases.

Thus when the sulfonamides were first introduced into this country from Europe, the toxicity and other shortcomings of sulfanilamide were quickly recognized and various companies immediately engaged in research to discover sulfa drugs of less toxicity and, if possible, with higher degrees of efficacy. Sharp & Dohme was one company which went in heavily for sulfa drug research in 1936, and is said to have spent a million dollars on this work. That they were successful is proven by the fact that they obtained improved sulfa drugs on which they have been receiving royalties of nearly a million dollars a year. Remember that this one company spent this large amount of money in the latter thirties on a pure gamble. As the result of the success of this one company in this project and the results of other companies in similar projects, this amount of money to invest in the search of a new project might be considered small by today's standards.

It will be seen that the search for new pharmaceutical products is an undertaking of considerable proportions with results not always guaranteed. However the results of success have been in many instances, to say the least, fabulous. The investment of three million dollars in the discovery and development of a product, with no guarantee that a competitor will not turn up with the same or a similar or better product at almost the same time is one of the risks involved. Furthermore, development of manufacturing facilities to produce the product in sufficient quantity for the potential market might represent extremely heavy capital expenditures while facing the possibility of this product and these facilities becoming obsolete before complete amortization can be achieved.

The intensive research taking place in the pharmaceutical manufacturing industry today is in the nature of a battle of giants, with the medical profession, and therefore, the public, the true beneficiaries.

Facing Fair Trade

(Continued from page 311)

is a most unsatisfactory way of conducting a business. It certainly does not make for friendly relations with one's customers, and when products are sold largely through wholesalers, it is almost impossible to accomplish anything worthwhile by using it. Furthermore,

it takes up the time of many people, including executives and salesmen, whose time could be spent far more profitably in the ordinary promotion and sale of their products.

It is the fear of being faced with a situation of this kind that has caused the manufacturers in this industry to contribute so much of their time and money to the cause of fair trade. There are still associated with many companies in this industry men who have good cause to remember these conditions which existed throughout the industry before the era ushered in by the fair trade acts and the Miller-Tydings Amendment. While these executives realize that cut prices move more goods in the aggregate, this fact does not compensate for the damage that can be suffered by an individual company as the result of predatory price cutting which results in a particular product becoming known nationally as a loss leader item.

Manufacturers are watching the present situation carefully, and they are fervently praying that their own products do not happen to be selected, purely by chance, as the loss leaders of known price-cutters. The unfortunate factor in being selected as a loss leader item is that the better known and the more widely demanded by the public a product is, the more likely it is to become the outstanding loss leader. Price-cutters cannot attract any attention or get anybody into their stores by quoting cut prices on items which are not particularly well known by the general public as the leaders in their class. Therefore, the more successful a company is in promoting its product over the years, the more likely it is to fall into the unhappy position of having its product selected as a nationally known loss leader.

While the situation generally is quiescent as regards the development of any products into widely-known loss leaders, the manufacturers of popular items have their fingers crossed and are bending all their efforts toward bringing about a situation such as prevailed before the Schwegmann decision. The Bureau of Education on Fair Trade is being continued in the hope that the general public can be made to realize that fair trade is better for their welfare than sporadic price-cutting which is only used as bait to overcharge them on other items the true value of which they do not know. If a very high percentage of the public can be educated to this point, then the enactment of a Federal law to strengthen the Miller-Tydings Amendment to the point that non-signers of fair trade contracts are also controlled by the State laws even in interstate commerce, should be accomplished a lot more easily than if the public were, in large majority, opposed to the idea of fair trade.

There are those who view the situation apathetically, being of the firm conviction that no legislation to correct the situation can be obtained in Washington, unless and until we find ourselves in another depression. However, if the price-cutters become active to the point of really causing serious damage to the property rights of some manufacturers in their trademarks, action

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would be required immediately. Those interested in the cause of fair trade sense the dangers inherent in the present situation and they are particularly anxious that manufacturers and retailers appreciate this danger and try to get the situation remedied before the fire breaks out.

Patent Thoughts and Trends

(*Continued from page 367*)

U. S. 2,464,281—issued March 15, 1949 to Durey H. Peterson, assigned to Raymond Laboratories, Inc.

This patent is similar to U. S. 2,464,280, water-soluble polymeric acrylic acid derivatives being used here as the creaming agents.

Claim 1 is illustrative.

A cream hair treating composition for use in hair molding processes comprising a keratin reducing agent dissolved in an aqueous medium containing a water-insoluble polymeric acrylic acid derivative dispersed therein by a dispersing agent for said acrylic acid derivative, said dispersing agent being present in an amount sufficient to maintain said composition uniformly opaque and milky in appearance.

U. S. 2,479,382—issued August 16, 1949 to Harry W. Mace and assigned to Samuel O. Ronk and Louise R. Hunter.

In order to overcome the tendency of cold waving creams to separate, Mace suggests the use of emulsifying bases prepared by combining an oil soluble emulsifying agent such as sorbitan monooleate and a water soluble emulsifying agent such as sorbitan monooleate polyoxyalkylene derivative, and adding to these substances a normally liquid chlorinated paraffin hydrocarbon selected from the group having from about 13 to about 30 carbon atoms per molecule, in which the chlorine content varies between about 10 and about 70 per cent by weight.

Claim 1 is illustrative.

An emulsifying base for hair waving compositions, said base comprising a normally liquid chlorinated paraffin hydrocarbon containing at least about thirteen carbon atoms per molecule, sorbitan monooleate, and sorbitan monooleate polyoxyalkylene derivative.

U. S. 2,506,492—issued May 2, 1950 to Louis De Mytt and R. E. Reed and assigned to Raymond Laboratories, Inc.

In order to stabilize sulfite solutions this patent proposes use of water-soluble amino polycarboxylic acids and salts thereof. One such compound is that sold under the trade-name Versene, namely, the tetra sodium salt of ethylene diamine tetra acetic acid.

Claim 1 is illustrative.

Stable alkaline sulfite hair waving solution comprising an alkaline sulfite salt and an alkaline buffering salt to buffer the solution thereof in the substantially alkaline pH range, dissolved in water containing small quantities of multivalent ions of at least one metal selected from the group consisting of copper, cobalt, manganese and iron normally tending to accelerate oxidation of the sulfite and a small quantity of a sequestering agent for said ions, selected from the group consisting of water-soluble tertiary amino polycarboxylic acids and salts thereof.

Court Cases

2,010,112—J. Schneiderman, Permanent wave rod, filed March 28, 1951 (Chicago), Raymond Labs., Inc., v. J. Schneiderman.

2,112,074—**Cunningham, Hair Curler,** *2,145,278*—

Solomon, Hair Curler D. C. N. J.—Tip-Top Products Co. v. Solo Products et. al. Patents held invalid.

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2,552,896—Hoffmann-LaRoche—Methanol Extraction of cascara sagrada bark to form casanthranol.

2,552,908—Eastman Kodak—Concentration of Neovitamin A.

2,553,552—National Jewish Hospital—Tuberculosis Diagnostic Composition.

2,553,647-8—Research Corp.—Naphthoquinone Anti-Malarials.

2,553,685—Abbott Labs.—Adsorption and Elution of Streptomycin.

2,553,914—Ward, Blenkinsop & Co.—Substituted Diphenylamine 2-Monocarboxylic Acids.

2,553,993,4—Warner-Hudnut — Pyridine Therapeutics.

2,553,072—National Drug—Antacid: Anion-exchange resin and atropine or homotropine.

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2,554,464—A Kraus—Dentifrice: a lactate, peroxides, a source of ferrous ions, and water-free suspending medium.

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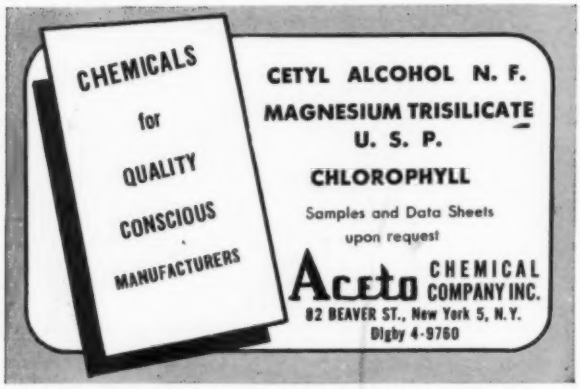

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2,555,937—R. L. Rosenthal—Method and Apparatus for Measuring Blood Resistance During clotting.
2,555,943,4—Sterling Drug—Quinolines and Acridines.
2,556,102—Miles Labs.—2-Aminoalkyl-9-Fluorenones.
2,556,636—Schering—Gamma-substituted Propylamine Type Antihistamines.
2,556,688—U. S. Industrial Chemicals—Pharmaceutical Methionine Composition.
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2,557,052—Upjohn—Progesterone Solutions.
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2,560,617—Upjohn—Condensation of Dihalo-Alkylaminobenzoates with Aminohydroxypyrimidine.
2,560,681—H. Berkowitz—Carrier for Perfumed Material.
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2,560,808—J. C. Maccallum—Germicidal Hair Drier.
2,560,889-91—Chas. Pfizer—Streptomycin Recovery.
2,560,939—Allied Labs—2, 2-Methylenebis (4-Chloro-6-Acetamedophenol) Fungicide.
2,561,302—Parke, Davis—Substituted Pteridines.
2,561,364—U. S. A.—Vitamin B_{12} Process.
2,561,379-80—Scientific Oil Compounding Co.—Water-insoluble Carboxylic Acid Soap—Heavy metal Salt of Hydroxy quinoline Fungicidal Composition.
2,561,384—Hoffmann-LaRoche—Decamethylene diamine Salt of Heparin.
2,561,385—Warner-Hudnut, Inc.—Aminoalkyl-2-Thienyl-Cycloalkenyl Acetate. Antispasmodic.
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2,561,574—Merck—Preparation of Alpha-Bromo, Omega-Benzoylamino Caproic Acid.
2,561,658—Hoffmann-LaRoche—Mercapto Folic Acid.
2,561,666—A. T. Kirsch—Hair Curler.
2,561,688-9—Eli Lilly and Co.—Spirobarbituric Acids.
2,561,948—Parke, Davis—Aminoalkylated Diamino Diphenyl Sulfones.

2,562,042—**American Home Foods—Tetrahydroxyran-Sulfide Compounds.**
2,562,073—**A. E. Vaughn—Cosmetic Powder Container and Dispenser.**

Indelible Lipsticks

(*Continued from page 315*)

two would appear to be better than either one alone, since the esters are completely soluble in all proportions with fixed oils and are relatively insoluble in water.

The same principle may be applied to the tetra hydro furfuryl alcohol and its esters. The alcohol is a better solvent than any of its esters and the solvent power of the esters decreases with an increase in the molecular weight of the combined fatty acid. The alcohol itself, however, in addition to being soluble in all proportions in water, has a lower vaporizing temperature so that its use could easily lead to marked shrinkage of the stick.

Since in the instructions for use of these new sticks the woman is told to blot the lips a few minutes after application in order to remove the film excess, a certain amount of water soluble constituents will not cause excessive distortions. Under the conditions it would be desirable to have the vehicle as quick-acting as possible towards production of maximum stain, and the use of water soluble solvents becomes almost a must.

The film itself should be of a rather high viscosity as well, since even though it is allowed to remain on the lips for a relatively short length of time, too low a viscosity would cause some undesirable flowing even in that interval. It would therefore seem desirable to use these solvents in conjunction with castor oil or some equally viscous compatible substance.

We now come to the pros and cons of irritation due to the use of the high-indelible sticks. There is some evidence which would indicate that the greater the quantity of dissolved bromo acids present the greater the tendency towards irritation. I know from past experience that the greater the total quantity, the greater would be this tendency, but at this writing I would hesitate to conclude that this is true because of greater quantities in solution or because of a greater quantity initially introduced. This may follow because of a possible equilibrium which may be set up where the amount going into solution may be dependent on the total amount present.

In any case there have been reports of greater incidences of irritation in the newer sticks. It is true these reports have not been examined statistically as yet and at the moment there is no absolute proof. However, if it should prove to be the case, I do not think that the new trend will continue over too long a period.

It is also possible, however, to read the hand writing on the wall, to interpret the current trend as to what the consumer wants, and to do more concentrated work on the whole indelibility-irritation problem, so that a product could be arrived at which would be free of irritation effects and also be capable of a highly indelible stain.

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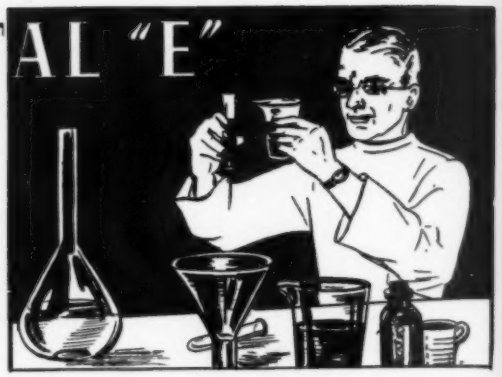

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